DOCUMENT RESUME

ED 461 074 CG 031 506

AUTHOR	Bachman, Jerald G.; Kahn, Robert L.; Mednick, Martha T.; Davidson, Terrence N.; Johnston, Lloyd D.
TITLE	Youth in Transition, Volume I: Blueprint for a Longitudinal Study of Adolescent Boys.
INSTITUTION	Michigan Univ., Ann Arbor. Inst. for Social Research.
SPONS AGENCY	Office of Education (DHEW), Washington, DC.
PUB DATE	1969-00-00
NOTE	272p.
PUB TYPE	Books (010) -- Reports - Research (143)
EDRS PRICE	MF01/PC11 Plus Postage.
DESCRIPTORS	*Adolescents; Attitude Measures; Behavioral Science Research; *Developmental Stages; Environmental Influences; *Longitudinal Studies; *Males; National Surveys; Peer Relationship; Research Design; *Secondary School Students; *Social Influences
IDENTIFIERS	*Monitoring the Future

ABSTRACT

This publication is the first volume of a series describing the Monitoring the Future longitudinal study. This volume is structured to describe, in a logical sequence, the large and complex research plan. Chapter 1 provides a brief introduction to the design and purposes of the study and notes its relationship to other nationwide studies of youth. Chapter 2 presents a conceptual framework that views the major criterion areas of growth and change as determined by person characteristics, characteristics of one or more environments, and the interactions between person and environment. Chapter 3 spells out the design and rationale for the samples included in the study, the general procedures and timetable for data collections, and some approaches for dealing with special problems in panel surveys. Chapter 4 presents a complete listing of dimensions and procedures of measurement. Chapter 5 discusses a number of broad analysis strategies. Chapter 6 describes the major substantive interests to be explored in the study, including the study of schools as organizations. An epilogue describes the samples of schools and boys, and the response rates obtained, at the time of the initial data collection (fall 1966). (Contains 9 figures, 14 tables, and 5 appendixes.) (JDM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 461 074

Youth in Transition

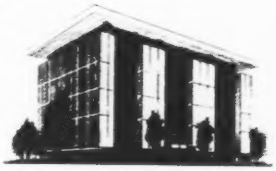
VOLUME I

Blueprint for a Longitudinal Study of Adolescent Boys

JERALD G. BACHMAN
ROBERT L. KAHN
MARTHA T. MEDNICK
TERRENCE N. DAVIDSON
LLOYD D. JOHNSTON

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.



PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY

T. HART

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1

SURVEY RESEARCH CENTER

BEST COPY AVAILABLE

CG031506

ISR

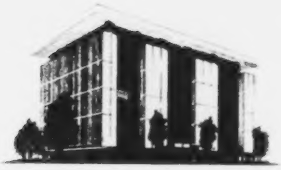
INSTITUTE FOR SOCIAL RESEARCH
THE UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

Youth in Transition

VOLUME I

Blueprint for a Longitudinal Study of Adolescent Boys

JERALD G. BACHMAN
ROBERT L. KAHN
MARTHA T. MEDNICK
TERRENCE N. DAVIDSON
LLOYD D. JOHNSTON



SURVEY RESEARCH CENTER

ISR
INSTITUTE FOR SOCIAL RESEARCH
THE UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Printed by Braun-Brumfield, Inc., Ann Arbor, Michigan
Manufactured in the United States of America

Second Printing September 1969

FOREWORD

This book is the first in a series planned to comprise at least six or seven volumes. Summarized herein are the first two years of a six-year nationwide longitudinal study of adolescent boys.* The work described in this first volume began with broad planning and goal-setting, proceeded through a more detailed specification of research design and procedures, and culminated in the selection of a sample and collection of initial data.

This volume is structured to describe, in a logical sequence, a large and complex research plan. While an attempt has been made to avoid repetition and overlap, each major section should impart enough of the general notions to permit selective reading of any one chapter.

Chapter 1, Introduction, provides a brief introduction to the design and purposes of the study, and notes its relationship to other nationwide studies of youth.

Chapter 2, Conceptual Framework and Purposes, presents a conceptual framework that views the major criterion areas of growth and change as determined by (a) person characteristics, (b) characteristics of one or more environments, and (c) interactions between person and environment.

Chapter 3, Research Design, spells out the design and rationale for the samples included in the study, the general procedures and timetable for data collections, and some approaches for dealing with special problems in panel surveys.

Chapter 4, Measurement Content, presents a complete listing of dimensions and procedures of measurement. The chapter reviews in detail the initial data collection instruments (used in Fall, 1966) and presents relevant information on reliability and validity.

Chapter 5, Analysis Design, discusses a number of broad analysis strategies, including the use of descriptive statistics, index construction and other means of data reduction, cross-sectional analyses of relationships, and longitudinal analyses focused on the discovery of causal relationships.

---

*Much of the material in this volume appeared in preliminary form as an interim report to the U.S. Office of Education (Bachman, et al., 1967).

Chapter 6, Major Themes of Analysis, describes in somewhat greater detail the major substantive interests to be explored in the study, including the study of schools as organizations.

An *Epilogue* describes the samples of schools and boys, and the response rates obtained, at the time of the initial data collection (Fall, 1966).

* * *

It is not possible to specify precisely the topics and sequence of future volumes in this series, but the following are likely to be included:

—A descriptive profile of tenth-grade boys in United States public schools.
—A study of the effects of background characteristics such as race, socioeconomic status, and geographic location.
—A description of changes and development in adolescent boys.
—An examination of the effects of different school and work environments.
—An exploration of the reasons boys leave school without graduating.
—A study of high schools as organizations.

PREFACE

In June of 1965 a longitudinal study of high school age boys was launched by the Survey Research Center* under the sponsorship of the United States Office of Education. The study was to deal with the effects of different high school environments, and the loss of such environments in the case of high school dropouts. To accomplish these purposes it has been necessary to take account of many other factors influencing adolescent development and behavior. Thus the study is, in the broadest sense, an exploration of the effects of social environments on adolescent boys.

The study was undertaken as part of a continuing program of research on the ways in which individuals are affected by the social psychological characteristics of their immediate environment. The program, a joint effort of the Survey Research Center and the Research Center for Group Dynamics, concentrates on the effects of such contemporary environmental factors on the mental and physical health of adults and adolescents. Special attention is given to the work role for adults and the student role for younger people, including the ways in which these roles determine the development, the values and aspirations, the affective states, and (to a lesser extent) the physical states of individuals.

The substantive focus of this research program can be stated as a single over-arching hypothesis: that the contemporary objective environment of a person has profound effects upon his physical and mental health, that these effects are always part of a causal sequence which includes as intervening terms his psychological environment and his immediate responses to it, and that the causal sequence from objective environment to health will be modified by the genetic endowment and personality of the individual.

As part of the larger program just described, the present project has drawn heavily from the work of other staff members associated with the program. In particular, we are indebted to John R. P. French, Jr., who contributed extensive guidance, especially during the year 1965-1966. We have also gained from a close association with another project in the program, the People Changing Jobs Study; members of that project include George Brooks, Sidney Cobb, and Stanislav Kasl.

---

*Survey Research Center is one of three divisions of the Institute for Social Research of The University of Michigan; the other two centers are: Research Center for Group Dynamics and Center for Research on Utilization of Scientific Knowledge.

Other colleagues at the Institute for Social Research have contributed much to our thinking and procedures. A partial list includes: John Atkinson, Ralph Bisco, Carl Bixby, David Bradford, Charles Cannell, Edgar Epps, Martin Gold, Gerald Gurin, Patricia Gurin, Irene Hess, Daniel Katz, Leslie Kish, Joan Scheffler, John Scott, and Duane Thomas.

We wish to acknowledge also the support and encouragement of David Bushnell, Alice Scates, and Richard Bloom of the Division of Comprehensive and Vocational Educational Research of the U.S. Office of Education.

A study of the present scope requires the cooperative effort of many persons. Thanks are due to many staff members of the Institute for Social Research: the Sampling Section; the Field Section, including field supervisors and interviewers; the Coding Section; and the Data Processing Facility. In particular, we wish to acknowledge the work of other members of our project staff, past and present:

Allison Arscott
Joy Bingham
Lynn Bozoki
Janet Bumpass
Robert Cope
Sally Iman
Rita Lamendella
Judith Long
Haydee Navarro
Roberta Niaki
Guttorm Norstebo
Karen Paige
Philip Rappaport
Joel Raynor
Ilona Wirtanen

We appreciate the patient and skillful work of Joy Bingham and Sue Hudson who typed the manuscript, Allison Arscott who provided valuable editorial assistance, and Lee Behnke for her help in the graphic aspects of the figures and tables.

Special thanks are due to the editor of this volume, William V. Haney. His careful handling of the authors as well as the manuscript has made the process of writing much less difficult.

Finally, we extend our gratitude and appreciation to the principals and instructional staffs of over one hundred schools, and to several thousand boys—the people who generously provide the data for our study.

Preface to Second Printing—August, 1969. Blueprints have a way of being modified once actual construction gets underway. Our blueprint for the study of Youth in Transition is certainly no exception. Since the first printing of this monograph nearly two years ago, there have been a number of minor adjustments and a few major changes in our study design. We have not made any attempt to update this volume, since that will be handled more effectively in subsequent volumes. But we did think it useful to add a page or two to our preface, noting some design changes and some recent developments in the area of data collections.

The second data collection from our panel of boys did not involve a reduction in the panel, as originally planned (see page 28). As the time for the second data collection approached, we came to feel more and more that the advantages of keeping a complete cross-section were worth the moderate additional cost; fortunately our sponsors agreed. A total of 1886 respondents in our "probability sample" participated in the second data collection in Spring of 1968; this represents 85.2 percent of the 2213 who *took part* in the first data collection, and 82.8 percent of the initial *sample* who had been invited to participate at "Time 1" (see page 128).

A third data collection, not part of our original design, was carried out in Spring of 1969. This extra data collection was limited to questionnaires administered in small groups. Its purpose was to obtain information from our subjects just before most of them made the transition out of high school and into some other major environment. A total of 1799 respondents in our probability sample participated this time, representing 81.3 percent of Time 1 participants, and 79.0 percent of the initial sample.

A fourth data collection is now scheduled to take place in Spring of 1969, nearly a year after most boys have left high school. (This corresponds to the "Time 3" data collection described on page 27; the chief difference is that it will occur about six months later than originally planned.)

The rate of continuing participation has been most gratifying. It reflects the ingenuity and perseverance of many interviewers and the rest of our Field Section; but even more, it indicates the interest and enthusiasm of the young men who have been involved in the study. Experiences of this sort make it easier for us to accept the "delay of gratification" that a longitudinal study necessarily entails.

BEST COPY AVAILABLE

Another source of satisfaction has been the data collection from school personnel (see page 29-31). One hundred percent of the schools that participated in the Time 1 data collection from boys agreed also to provide us with organizational information. We obtained questionnaire data from 100 percent of the principals, 99 percent of the heads of counseling, 87 percent of all counselors, and 70 percent of our sampling of teachers. We thus have a wealth of data on school environments that can be related to the experiences of the boys in our panel.

In summary, the past two years have seen the accomplishment of much that was outlined in our 1967 blueprint. Some changes have been made, but these were changes in procedure rather than in basic purposes. The successful data collections have served to heighten our feelings of gratitude and appreciation to the principals, teachers, counselors, and most of all the young men who have been exceedingly generous in contributing the data for this study.

CONTENTS

Foreword iii

Preface v

Chapter 1 – Introduction 1

Adolescents: change and environmental context 1
Overview of the research design 4
Relationship to other nationwide studies of youth. 5
Summary 7

Chapter 2 – Conceptual Framework and Purposes 9

Major purpose: the study of persons in environments . . . 9
Conceptual framework 13
Additional purposes of the study 17
Summary 18

Chapter 3 – Research Design 21

Population and samples 21
Data collections from subjects 25
Measures of school environments 29
Measures of work environments 32
Additional issues in the research design 32
Summary 39

Chapter 4 – Measurement Content 41

Overview of measures 41
Administration of interviews, tests, and written questionnaires 58
Time 1 measurement content 58
Summary 78

Chapter 5 – Analysis Strategies and Procedures 81

Sequence of analysis strategies 81
Sets of analysis variables. 84
Analysis strategies applied to variable sets 85
Additional types of analyses 97
Summary 100

Chapter 6 – Major Themes of Analysis 103

Effects of environments on criteria 103
Effects of person characteristics on criteria 107
Person-environment interactions affecting criteria 108
Environment-environment interactions affecting criteria . 111
Person-person interactions affecting criteria 113
The study of schools as organizations 115
Analyses of organizational variables 120
Summary 121

Epilogue: Sampling Procedures and Response Rates 123

Securing schools to participate 123
Selecting and contacting subjects 126

Appendix A Interview 139

Appendix B Example of Matrix Problem 191

Appendix C Questionnaire 193

Appendix D Thematic Apperception Test: Scoring Convention for n Achievement 250

Appendix E Thematic Apperception Test: Scoring Convention for n Affiliation 251

Bibliography 253

Index 259

FIGURES

Figure 2-1 Conceptual Framework 13
Figure 2-2 Conceptual Framework with Major Variable Categories Specified 15
Figure 3-1 Survey Research Center's Random Sample of the United States 23
Figure 3-2 Main Stages of Data Collection 26
Figure 3-3 Time Schedule of All Data Collections 30
Figure 3-4 Time Commitments to School and Job Environments 34
Figure 3-5 A Hypothetical Case History 35
Figure 4-1 Spectrum for Comparing Tests of Scholastic Aptitude 65
Figure 5-1 Cross-Lagged Panel Correlation of Variables A and B at Times 1 and 2 97
Figure 5-2 Cross-Lagged Panel Correlation of Variables A and B at Times 1, 2, and 3 98

TABLES

Table 4-1 Classification of Variables by Instrument and Time of Measurement 43-57
Table 4-2 Organization of Interview 59
Table 4-3 Scorer Reliabilities: Projective Measure of Motives 61
Table 4-4 The Correlation of GATB Aptitude Scores with Intelligence Measures 70
Table 4-5 The Relationship of GATB and High School Success in the Same Sample at Two Grade Levels 71
Table 4-6 The Reliability of Alternate Forms of the GATB (High School and College Students) 71
Table 4-7 Organization of Questionnaire 72
Table 5-1 Sets of Analysis Variables Expanded to Include Change Scores 85

Table 5-2 Sets of Analysis Variables Expanded to Include Change Scores and School Means. 86

Table 5-3 Sets of Analysis Variables Used in Strategy 2: Cross-Sectional Relationships 89

Table 5-4 Sets of Analysis Variables Used in Strategy 3: Longitudinal Analyses 92

Table 5-5 Sets of Analysis Variables Used in Strategies 1, 2, and 3 96

Table 1 Reasons for Declining for Seventeen Schools in Original Sample 124

Table 2 Sampling Results 128

Chapter 1

INTRODUCTION

Adolescence is a time of change, a time of transition. It is not only a time of physical maturation, but a time of psychological development. During these sometimes turbulent years, attitudes, aspirations, and self-concept are especially sensitive to many stimuli and are subject to both dramatic and subtle changes that are crucial in shaping the life of the individual. Decisions are made or deferred, actions are taken or rejected. And regardless of the nature and direction of word or act, the effects of many choices made during this period of life are profound and long lasting.

Adolescents: Change and Environmental Context

Our study of *Youth in Transition* is focused on some major changes in adolescent boys during the high school years. It is particularly concerned with the way these changes are affected by aspects of the immediate social environment. These environmental characteristics include ability requirements, opportunities for achievement and affiliation, peer group structure, and availability of adult models.

Every person, no matter what his age, can be described as existing in a state of flux—a state of constant change in his physical, mental, and emotional characteristics. But it is also true that there are some stages in the life cycle that are particularly important in terms of development and change and adolescence is one such stage. As a time of deep and lasting changes in the person (or "personality"), adolescence is perhaps second only to early childhood. Skills and abilities are developed, attitudes and styles of behavior are formed, a more fully articulated concept of the self emerges, and vocational plans and aspirations take shape.

The social environments of the adolescent—especially school and work—can have very significant effects on personality formation. A lasting enthusiasm for reading or mathematics or education in general can develop, or, less happily, such enthusiasm can be permanently damaged by experiences in a particular high school or other environment. One kind of work environment may foster a commitment to craftsmanship that carries over into future jobs; other work situations may stunt the growth of such values. The same point can be made with respect to the development of potential in skill and ability.

In addition to—and sometimes quite apart from—such developmental changes in personality, the adolescent's environments can play a part in determining what opportunities will be available to him. Environments such as home and school greatly define the range of available opportunities to a young person. Family finances may restrict the chances for continuing education. Effective job placement programs can do much to shape both perceived and actual vocational opportunities of high school graduates. And, of course, the attainment of a high school diploma will influence opportunities throughout a lifetime.

Both types of environmental effects are stressed to the adolescent himself in the current campaign to discourage dropping out of high school. The student is told that high school will provide him with knowledge and skills that will help him to be more successful in his adult life—in other words, his high school experience will change him for the better. But the student is also given to understand that even if he did not learn much in school, the diploma is, at minimum, a credential he should hold for future opportunities.

Environments also influence the process of choosing among available opportunities. To give just one example, the presence or absence of good educational and vocational guidance from the home, school, or other agency can make a profound difference in the course of a young person's life.

We have spoken thus far in conveniently uncomplicated terms about effects of environments upon persons. At least two complications must be noted, however. First, we do not assume that a given environment will have a similar effect on each person; quite the contrary, the interaction between person and environment is a central topic for exploration in this study. Second, it would be an oversimplification to speak of the effects of environments on persons without recognizing that persons also can alter current environments and can choose among environments. Our interests will be focused especially on choices to leave or remain in a school environment and on choices of work environments. These choices often put persons in new environments which in turn produce new effects. Thus the causal patterns to be explored in this study are not limited to the simple and unidirectional; rather, we must frequently think in terms of cycles and networks of causal interaction between persons and environments.

Implications for Theory and Policy. The study of the adolescent in his social environments has important implications for both theory and policy. Accordingly, practical and theoretical aims are closely interrelated in the present study; moreover, we feel that these aims are mutually facilitating, and that either would be less well served in the absence of the other. Kaplan (1964) has stated this position very clearly in his discussion of behavioral science and policy:

> . . . there are those who regard . . . [policy] concerns as lying quite outside the scientific enterprise itself, and perhaps even as antithetical to that enterprise . . . .
>
> This . . . point of view strikes me as singularly lacking in perspective, especially on the history of science itself. Even the eighteenth-century tradition of science as an occupation for gentlemen of leisure manifested a striking concern with the practical interests of war, commerce, industry, and agriculture, and even the purest of the sciences owe a not inconsiderable debt to such interests. The fact is that the distinction between "pure" and "applied" science, whatever its logical ground, is not of much help in understanding the actual growth of knowledge. "Every practical problem is really a problem in research," Campbell* has pointed out, "leading to the advancement of pure learning as well as to material efficiency; indeed, almost all the problems by the solution of which science has actually advanced have been suggested, more or less directly, by the familiar experiences of everyday life." (Kaplan, 1964, p. 398)[1]
>
> ---
>
> *Campbell, N. *What is science?* New York, 1952, p. 182.

That the present research has been suggested by familiar experiences of everyday life, experiences of great practical consequence, is perhaps obvious. Discussions of the "dropout" problem have been numerous and prominent in educational journals and newspapers for years, and are now enlivened by controversies as to whether "dropout" or "pushout" is the more accurate term. Problems of the relative importance of home versus school and of the interaction of the two are of equally long standing. The advisability of work instead of school, or work-study combinations, is also argued without clear evidence of the effects of such options on boys of differing personal characteristics.

Such issues will not yield to categorical, unqualified answers. Although they are practical problems, they are best understood when approached from a theoretical standpoint. This we propose to do, and we expect that at the same time our theories will be refined and strengthened through this process of application and testing in everyday life.

---

[1] This quotation, from *The conduct of inquiry* by A. Kaplan, is used with the permission of the author and the publisher, Chandler Publishing Company, San Francisco.

Overview of the Research Design

It is an assumption of educators, leaders in industry and government, and perhaps the adult population at large, that school and work environments—or the absence of either—differ drastically in their implications for adolescent boys. Yet it can reasonably be asked to what extent observed differences in behavior between boys in school, at work, or unemployed reflect their different environments, and to what extent the choice of environment (such as dropping out of school or failing to seek work actively) is itself a reflection of already established differences in backgrounds, attitudes, and motives. Admittedly such questions are difficult to answer without the manipulative control of the classical experiment, but answers can be generated by means of a longitudinal research design, an adaptation of the panel technique as it has been used in survey research.

Such a design is used in this study of boys in public high schools throughout the United States. The design begins with a national cross-section of boys starting tenth grade and follows them for slightly more than three years. During this three-year period most boys in the panel will graduate from high school and enter the labor force or go on to higher education. A significant minority will leave school before graduating; some will enter work environments immediately and others will become (and remain) unemployed.

The sample involves approximately 2,500 boys clustered in about one hundred schools. Data are to be collected from the boys in Fall 1966, Spring 1968, and Fall 1969. Each of these data collections includes personal interviews, tests of performance and ability, and questionnaires to measure attitudes, values, and affective states. In order to provide for studying *changes* in attributes of the boys, most of the measures used in the first data collection will be repeated in the second and third. Data concerning characteristics of the 100 different school environments will be obtained from questionnaires to principals, counselors, and samples of teachers.

The conceptual scope of the study is extremely wide. This adds complexity, but offers at least two advantages:

(a) It permits control over "extraneous" variables to a degree seldom attainable in survey studies. The common statement

"Assuming other things are equal . . ." has some justification in a carefully controlled laboratory study, but not in studies of people in their natural environments. Other things obviously are not equal; we cannot study a single dimension such as race, or intelligence, or socioeconomic level, or educational attainment, while assuming that the other dimensions are equal and unrelated. It was, therefore, obvious from the start that in order to study *any* dimension of interest to us, we would have to measure a great many characteristics—if for no other reason than to be able to control those characteristics statistically.

(b) A second virtue of such comprehensiveness is that it enlarges the possibilities for comparison among various theories, hypotheses, and relationships. For example, it would be of significance to learn that certain family characteristics relate to a boy's self-esteem, and that certain school characteristics also relate to self-esteem. But it would be of greater significance to be able to state the *relative* importance of each relationship with respect to the other. The simultaneous testing and comparison of many such relationships is an objective of our research.

Relationship to Other Nationwide Studies of Youth

Many studies are relevant, directly or indirectly, to our present work. Two nationwide studies of youth are of particular importance: Project TALENT and the recent study of Equality of Educational Opportunity (culminating with the "Coleman Report").

Project TALENT. Certainly the most ambitious, recent longitudinal research in education is Project TALENT (Flanagan, et al., 1962). After several years of planning, the Project TALENT data collection efforts were launched in 1960 with a sample of about 450,000 high school students in the United States (grades nine through twelve). Since that time a series of four follow-up studies have been conducted one year after graduation of each grade level. Further follow-ups are planned for five-year, ten-year, and twenty-year intervals following the time of high school graduation. (The final twenty-year follow-up is scheduled for 1983.)

There are obvious parallels between our study and the work of Project TALENT. Both are longitudinal studies of high school youth. Both are concerned with later outcomes, particularly occupational outcomes. And both are concerned with the effects of school characteristics upon students.

Yet the differences between the two lines of research are as conspicuous as the similarities. The general design and theoretical approach of Project TALENT are stated briefly in the following passage:

> The theoretical orientation to career development represented in this report is an extension of the classical trait and factor approach. Certain traits are measured on high-school students, these high-school students are then followed, and relationships are sought between the traits exhibited by the students in high school and their subsequent vocational behavior. This criterion behavior includes their career plans and decisions, and job satisfaction and success. (Flanagan and Cooley, 1966, p. 3)

In other words, one set of dimensions measured in high school is used to predict another set of dimensions at a later time. Our own study, in contrast, places heavy emphasis upon the "fit" and interaction between young men and their school and non-school environments; and our design calls for the use of *change* data obtained through *repeated measurements* at successive points in time.

An additional difference is our degree of concern with mental health and perception of future plans and opportunities. Largely because of such differences in emphasis, our study makes extensive use of personal interviews (in addition to tests and questionnaires) at all stages of measurement.[2]

Equality of Educational Opportunity. The recently completed work by Coleman, (Coleman, et al., 1966) carried out under Congressional edict,[3] is in many ways a landmark in educational research. Over 600,000 children in about four thousand United States public schools (grades 1, 3, 6, 9, and 12) were surveyed to obtain data bearing on four major questions:

(a) To what extent are racial and ethnic groups segregated?

(b) To what extent do segregated schools (when they exist) offer equal educational opportunities?

(c) How do racial and ethnic groups differ in performance on achievement tests?

---

[2] Incidentally, the use of personal interviews can be a great advantage in obtaining a high response rate, thus ensuring an accurately representative sample. This was indeed the case in the first measurement of the present study; a response rate of greater than 97 percent of all boys sampled is reported in the Epilogue.

[3] Section 402 of the Civil Rights Act of 1964; The Commissioner shall conduct a survey and make a report to the President and the Congress, within two years of the enactment of this title, concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national origin in public educational institutions at all levels in the United States, its territories and possessions, and the District of Columbia.

(d) How do differences in school characteristics relate to differences in student achievement?

The first three objectives are in large measure a census of public school characteristics, and they show little overlap with our own aims. The fourth objective, to relate school characteristics to student achievement, does involve some overlap; however, the overlap is in objective rather than in method. The fact that our study is designed to assess *changes* as a result of educational environments makes it complementary to the Coleman research in ways that he and his colleagues recognize:

> Had a number of years been available for this survey, a quite different way of assessing effects of school characteristics would have been possible; that is, examination of the educational growth over a period of time of children in schools with different characteristics. This is an alternative and in some ways preferable method of assessing the effects of school characteristics . . . .
>
> . . . If the sources of variations in achievement were less complex, the results would not differ; but here, as for most matters of human behavior, relationships are complex. Thus, the present analysis should be complemented by others that explore changes in achievement over a large span of time. (Coleman, et al., p. 292)

Summary

Adolescence is a time when changes occur and decisions are made that have life-long effects. Our study of high-school age boys examines the way these changes and decisions are influenced by social environment—especially school and work. We expect the results of our effort to have both theoretical and practical value, and we see these two emphases as complementary.

The study uses a longitudinal research design, beginning with a nationwide survey of boys entering high school. (The research design is discussed in detail in Chapter 3.) Our approach bears some similarity both to Project TALENT and to Coleman's Equality of Educational Opportunity study in focusing on the effects of school environments. Some major differences are that our study concentrates on the measurement of change, emphasizes dimensions of mental health and values, deals with work environments as alternatives to school, and relies heavily on data collected from structured personal interviews.

Chapter 2

CONCEPTUAL FRAMEWORK AND PURPOSES

The introductory chapter dealt briefly with our major interest in the study of adolescents in their social environment. In this chapter that purpose is elaborated and specified in terms of the conceptual framework guiding the study. A discussion of additional research purposes concludes this chapter.

Major Purpose: The Study of Persons in Environments

The Person—Changes in Him, His Plans, and His Behaviors. Much of our interest is focused on dimensions of the person or "personality." Such dimensions include:

(a) affective states, such as general happiness, anxiety, depression, guilt, and satisfaction with life;

(b) aspects of the self-concept, including perception of abilities, interests, and self-evaluation; and

(c) values and attitudes, such as social responsibility, attitudes toward jobs, and the perception that one can control his own destiny.

Our interests also include important plans and behaviors, particularly those relating to educational and occupational aspirations and achievements.

Any individual, at a particular time, can be located on each such dimension. These locations define his attributes, and we assume that such attributes are subject to substantial, sometimes dramatic, changes during adolescence. Although some changes are transitory, many have implications for a lifetime. The positive or negative value a boy places on continuing high school or seeking higher education, and the decisions that reflect that value, will make a great difference far beyond the years of adolescence. Similarly important and long-lasting may be decisions to join one or another peer group, or to risk or refrain from delinquent acts.

Because of the pervasiveness and importance of the changes that occur during adolescence, we propose to measure and chart a number of them during the high school years.

Changes as a Function of School and Work Environments. The changes that interest us do not occur in a vacuum. They reflect the impact of many complex and interacting factors in the social environment. Characteristics of the home, of peer groups, and of the larger community are all involved, and many will be studied. Of special importance to us, however, are the effects of two environments available to adolescent boys: high school and work.

Our society has a single prescription for the environment of the boy 15 to 18 years old: he should be in high school. Official statements from all the media remind us of this and emphasize the significance of a high school education and diploma for future earnings, job security, and (less frequently) fulfillment in other terms. Most boys do "choose" the high-school environment and are physically (if not always psychologically) involved in it on a "full-time" basis.

A second possible environment for the adolescent is employment; after the age of 16 in most states, he can work at almost any job available to him. Many boys are involved in a job on a part-time basis while in high school; but for others the work environment is a full-time alternative.[1]

If we consider primary involvement in school or work as two alternatives available to the adolescent boy, a third alternative is to be involved in neither. Each year large numbers of young men leave high school to assume the status of continuing unemployment; they are literally socialized into the world of unemployment rather than the world of work.

---

[1] Another possible environment, more "full-time" than either school or the usual job, is military service. This alternative is open to boys who have reached the age of 17; and, while boys are encouraged to complete high school before entering the service, it is also a possibility for the boy who has left school without graduating.

Military service presents something of a conceptual problem in our study. It is similar in some respects to the usual role of employee—it is properly described as an occupation, and it involves payment for work performed. But it also bears some similarity to the student role—it involves training and a hierarchy of command not unlike that in some schools. Finally, military service has unique characteristics not usually found in either school or work—it is a total commitment that involves the individual twenty-four hours of the day, it is compulsory once begun, and it often includes the risk of life and the requirement to take life.

In view of these distinctions, we expect that our study will make special provisions for the study of military service as a unique work environment. In this volume, it will generally be a useful simplification to include military as one very special category of work environment.

It is an oversimplification, but a useful one for purposes of discussion, to categorize boys as being:

in school —if primarily involved in a school environment.
at work —if primarily involved in a work environment.
unemployed —if not significantly involved in either a school or a work environment.

For theoretical understanding, a comparison of boys in these three categories is merely a beginning point for more searching analysis. For the guidance of social policy, however, the comparison can be of great value.

Variations within Categories of Environments. We have just stressed the importance of comparing and contrasting boys in school, at work, and unemployed. However, it is likely that these three conditions will not be completely different from each other in their effects on adolescent boys. We expect instead to find overlapping distributions on our criterion variables among students, employed boys, and also unemployed boys. A major basis for this prediction is our belief that the usual assumptions of difference between school and work environment are gross oversimplifications. It is often assumed that in school students learn by precept and example; on jobs, they utilize what they have learned. Yet there will almost certainly be schools which offer the student little opportunity to develop or use valued skills and no contact with adult male models with whom he can identify while some conditions of employment may be relatively rich in these respects. Differences within major categories of environments probably have done much to obscure enlightening comparison between them. Thus in addition to contrasting school with work environments, we will make comparisons among school environments and (to a somewhat lesser degree) we will make comparisons among work environments.

Description of Environments Along Commensurate Dimensions. To conclude that one environment is somehow "better" than another in terms of the changes that occur when adolescents are in that environment requires more than a comparison of the effects of different environments between categories (for example, school versus work) or within categories (such as one school versus another). While results of such comparisons might be interesting and of practical importance, it is of greater practical and theoretical value to discover what it is about a particular environment that makes it effective in a particular way. We want to go beyond the identification of environmental effects, and seek an explanation of such effects.

Such explanation requires us not only to measure characteristics of adolescents and to explain the changes that occur in these characteristics, but also to measure characteristics of environments. Moreover, to be fully effective, this measurement must involve dimensions that are commensurate across different categories of environments; that is, the environments must be described in the same conceptual terms and the concepts should have the same operational definitions. A strategy of conceptualization and measurement based on different languages for various environments would permit comparisons between schools or between jobs, but it would not permit quantitative comparison between schools and jobs. It would not enable us to learn, for example, whether certain dimensions (such as the opportunity to use and develop abilities) are of critical importance for adolescent growth in *all* environments.

We think it quite possible that some boys who leave school prior to graduation will enter work environments that have a more generally favorable effect upon them than did the school they left. By measuring school and work environments in terms of the same dimensions, it is possible to learn what important ingredients were lacking in such schools and available in such jobs.

Description of Persons and Environments in Commensurate Terms. The argument for measuring environments along commensurate dimensions can readily be extended one step: ideally, the dimensions we use to measure and characterize environments should be conceptually identical or logically related to the dimensions we apply to people. A few illustrations will help make the point. If we wish to know whether a particular adolescent will fit well into a particular environment, we must know whether his abilities match the ability demands of the environment. Accordingly, we will measure general ability and aptitude dimensions (such as arithmetic and reading skill) in adolescents, and also measure requirements for use of these skills in different school and work environments. Similarly, we will measure needs and motives of adolescents, and then attempt to describe environments in terms of their relevant "supplies" (gratification or frustration of such motives). Just as individuals differ in needs for achievement, affiliation, self-actualization, status, and money, so do environments differ in the degree to which they provide the means to fulfill such needs. The concept of fit between person and environment, important in this research, can best be realized when persons and environments are described by means of logically related concepts and commensurate dimensions.

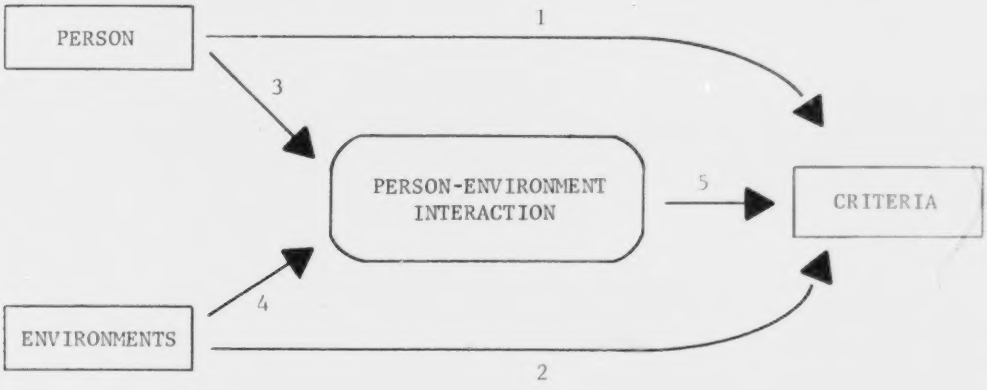
In summary, our major interests focus on important areas of growth and change, including dimensions of mental health, the self-concept, values and attitudes, plans and aspirations, and behaviors. We are interested particularly in relating individual growth and change to differences within and between school and work environments. In order to study such relationships most effectively, we intend to measure whenever possible characteristics of persons and environments in terms of identical or definably related concepts.

Conceptual Framework

The major interests discussed above are reflected in the conceptual framework that has guided our research. Figure 2-1 shows an outline of this conceptual framework.

FIGURE 2-1

CONCEPTUAL FRAMEWORK



For each set of relationships represented in Figure 2-1, we designate as criterion variables a single effect or a number of interrelated effects upon subjects. The possible determinants of these criteria are treated in three broad classes: (a) person characteristics, (b) characteristics of one or more environments, and (c) interactions between person and environment. Each arrow in the figure indicates a set of testable hypotheses about a causal sequence. We expect some person characteristics to show at least part of their effects directly (Arrow 1); and we expect some characteristics of environments also will influence the criteria directly (Arrow 2). Most important, however, is the sequence of arrows through person-environment interaction; this sequence represents our commitment to studying the interaction between these two categories of determinants (Arrows 3, 4, and 5).

Thus far we have described a framework without substance. Now let us consider the major categories of variables to be treated in the framework. Figure 2-2 specifies these categories, and their position. While this figure is more specific than Figure 2-1, it still presents only general categories of variables to be studied. A detailed listing of variables is provided in Chapter 4. (A category of variables in Figure 2-2 may represent five, ten, fifteen, or more of the specific variables listed in Table 4-1. The reader who is interested in a particular substantive category may wish to look ahead to Table 4-1 and the description of measures presented in Chapter 4.)

Figure 2-2 points up one of the major conceptual problems of the study; many of the characteristics of persons that serve as predictors are also appropriately treated as criteria. Moreover, we may find two variables reversing roles in the conceptual framework. As an example, we may attempt to predict grades from self-esteem, and also attempt to predict self-esteem from grades. Eventually, the longitudinal design will permit us to determine whether either or both of such possible causal sequences is plausible, and if both, which is the stronger. To use the same example, grades may be found to predict to later measures of self-esteem better than self-esteem predicts to later grades.[2]

Although there are advantages of simplicity and clarity in setting up a conceptual scheme that treats certain qualities of persons as predictors, and others as criteria, and that never allows the two categories to be reversed, this approach was rejected because it did not seem consistent with the realities treated in this study. The causal chain evolves into a complex network, with the effect in one episode becoming an important causal factor in another episode. Thus it appears essential to have the sort of overlap between person characteristics and criteria shown in Figure 2-2.

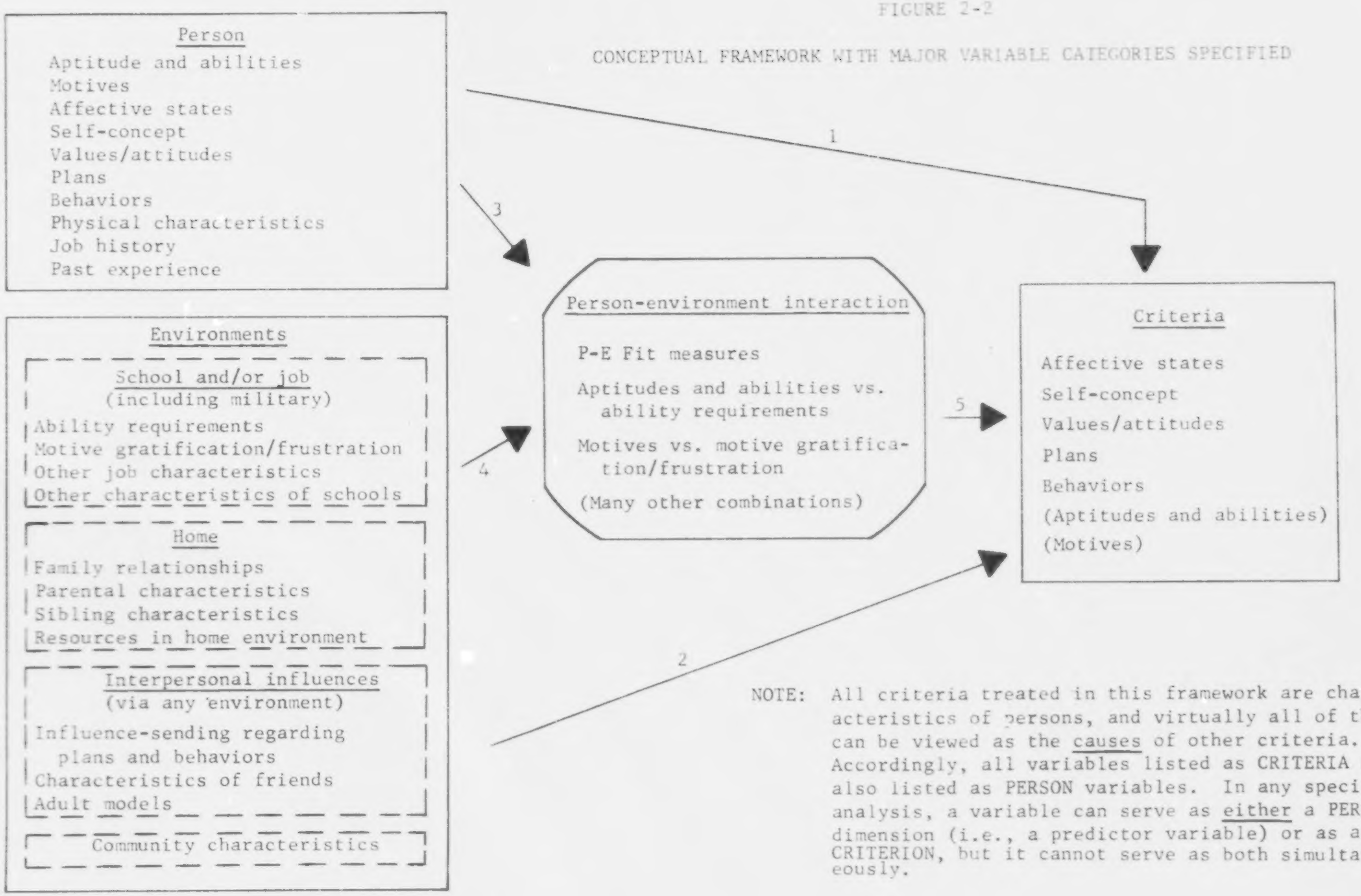
Figure 2-2 indicates that a number of different environments are of interest to us in the study. We have already stressed the importance of how these environments interact with characteristics

---

[2] This particular technique, termed "cross-lagged panel correlation," is discussed in Chapter 5.

FIGURE 2-2

CONCEPTUAL FRAMEWORK WITH MAJOR VARIABLE CATEGORIES SPECIFIED


Person
Aptitude and abilities
Motives
Affective states
Self-concept
Values/attitudes
Plans
Behaviors
Physical characteristics
Job history
Past experience
Environments
School and/or job
(including military)
Ability requirements
Motive gratification/frustration
Other job characteristics
Other characteristics of schools
Home
Family relationships
Parental characteristics
Sibling characteristics
Resources in home environment
Interpersonal influences
(via any environment)
Influence-sending regarding plans and behaviors
Characteristics of friends
Adult models
Community characteristics
1
2
3
4
5
Person-environment interaction
P-E Fit measures
Aptitudes and abilities vs. ability requirements
Motives vs. motive gratification/frustration
(Many other combinations)
Criteria
Affective states
Self-concept
Values/attitudes
Plans
Behaviors
(Aptitudes and abilities)
(Motives)

NOTE: All criteria treated in this framework are characteristics of persons, and virtually all of them can be viewed as the causes of other criteria. Accordingly, all variables listed as CRITERIA are also listed as PERSON variables. In any specific analysis, a variable can serve as either a PERSON dimension (i.e., a predictor variable) or as a CRITERION, but it cannot serve as both simultaneously.

BEST COPY AVAILABLE

of persons, and later we will illustrate some such interactions. But interactions between environments is also an important theoretical concern. Thus an elaboration of Arrow 2 in Figures 2-1 and 2-2 would focus on interaction between different environmental characteristics. This interaction may involve different aspects of the same general environment; for example, within the school environment the demand for high athletic achievement may interact or even conflict with the demand for high scholastic accomplishment. There may also be interaction between two distinct environments; for example, a home environment that disdains anything academic would conflict with a school environment committed to scholarship. The implications of such *combinations* of environmental forces are not evident from the ingredients taken separately. An examination of conflict or congruence within a role, or between roles, requires a consideration of the interactions between environmental forces. (For a recent discussion of such types of role conflict, see Kahn, et al., 1964.)

This interest in the interaction among characteristics of environments suggests a similar approach to characteristics of persons. An elaboration of Arrow 1 in Figures 2-1 and 2-2 would focus on the interaction between different characteristics of persons. For example, consider the use of aptitude and motive measures to predict a behavior such as getting good grades; while each predictor may be useful alone, the interaction should add significantly to our prediction. We would, in this example, expect strong motivation for grades to be increasingly effective to the extent that ability is present; or, conversely, that ability differences will be reflected in grades only when some positive motivation is present. Another illustration comes from motivational theory; there is good reason to believe that while a person may be very attracted by some incentive, he will not make any effort toward its attainment unless he thinks that his efforts have some chance of success. The interaction of these factors, the value of the incentive and the expectation of success, should provide better prediction of behavior than either factor by itself.

Appropriateness of the Framework. Considering the requirements of our study, how adequate is the framework?

(a) The framework reflects our primary concern with the effects of environments on persons, a concern focused here on the effects of school, work, and other environments upon adolescent boys. In particular, the framework emphasizes our interest in those environmental effects that result from an *interaction* with such individual characteristics as personality, intelligence, and aspirations.

(b) The framework is comprehensive, flexible, and open-ended. The breadth of our interest has already been suggested; the depth of this interest will be plumbed in the following chapters. Thousands of specific relationships will be investigated; many will be used to test specific hypotheses, others will be used in a more exploratory fashion. In a sense, much of our work might be described as theoretically-guided empiricism; with the broad conceptual approach discussed above providing the framework within which specific relationships may be discovered.

(c) The framework is simple. Parsimony is often desirable; here it is essential. The richness and scope of the data seem to invite elaborate and complicated theoretical formulations. But although such efforts will have their place in this research, our first concern is for an approach that is broad and integrative enough to encompass virtually all of our major purposes.

Ultimately, an evaluation of the framework must be in terms of its value in guiding analysis and communicating results. This process, which will extend over several years, is previewed in Chapter 6, where major analysis plans are discussed in detail.

Additional Purposes of the Study

In a project of this scope there are many interrelated purposes. The foregoing statement of major purposes is not exhaustive, and some new purposes will evolve in the course of our research. We foresee possible contributions to organizational theory through the study of schools as formal organizations, to research methods and concepts for studying the interaction between person and environment, and to analysis of the total field of forces that results in boys leaving high schools.

A Study of Schools as Organizations. We have noted earlier our intention to measure schools as environments for the education and socialization of adolescent boys. But it is also of both practical and theoretical importance to understand the formal structure of the school environment which impinges upon the students. What administrative arrangements, policies, and practices produce a truly developmental or a stunting environment for the student? What organizational and sociological facts create the interpersonal situation of teaching and learning which the student encounters directly?

Our study of both school and work environments depends heavily on the perception of the major actors in those environments, that is, the boys in our sample. But because our sample is clustered in a limited number of schools, we can study those environments in greater depth and with greater expectations of validity than would otherwise be possible. Data collected from principals, counselors, and teachers will be especially valuable in this connection.

Another possibility offered by studying schools as organizations is that of treating teacher responses as criterion data, somewhat analogous to the criterion data provided in industrial studies by employees. This supplemental research aim may improve our general understanding of the formal organization of schools. Moreover, it should contribute to empirical knowledge and theories of organization, most of which depend on data from industry, but seek to generalize to other organizational forms.

A Study of Why Boys Leave School. Another of our purposes is to study what happens to boys who leave school without graduating and become employed or unemployed. It is difficult to distinguish the effects of dropping out from the causes. This problem of confounding is reduced, however, by a research design that begins when all the boys are in school, and then follows them into the environments of work and non-work. A significant by-product of such a design is the opportunity to gain additional knowledge about the dynamics of dropping out of school, or being "pushed out." It is already well known that certain boys are relatively likely to leave school without graduating: those low in intelligence, reading ability, past school performance, or socioeconomic level, and those belonging to some minority groups. But beyond those general relationships may lie more subtle interactions. For example, it may be that some schools are effective in reversing the tendency for disadvantaged youth to drop out; other schools may accelerate the process. An important additional aim of this study is to locate such situations and identify the organizational characteristics of schools that affect the dropout phenomena.

Summary

Our major interests focus on important areas of growth and change, including dimensions of mental health, the self-concept, values and attitudes, plans and aspirations, and behaviors. We are interested particularly in relating individual growth and change to differences within and between school and work environments. In order to study such relationships most effectively, we intend to measure characteristics of persons and environments in terms of identical or definably related concepts.

Our work is guided by a conceptual framework that views the major criterion areas of growth and change as determined by (a) person characteristics, (b) characteristics of one or more environments, and (c) interactions between person and environment.

Two additional purposes of our research are (a) a study of organizational characteristics of schools, and (b) an examination of the reasons why boys leave school without graduating.

The pursuit of the interests and aims outlined in this chapter requires a fairly complex research design; our approach involves data collected from boys over a three-year period and information from principals and teachers in about a hundred schools. We turn in the next chapter to a discussion of this research design.

Chapter 3

RESEARCH DESIGN

The basic design is a panel survey, combining the depth of a longitudinal design with the breadth of a nationwide sample. The study begins with a cross-section of boys starting tenth grade in public high schools throughout the United States, and follows them for three years. During this period the majority will complete high school and enter the labor force or go on to higher education; others will leave school without graduating and take jobs; still others will leave school, become unemployed, and remain unemployed. The study is designed to measure important changes which occur in boys during this period, and relate these changes to the environments in which they occur.

Population and Samples

Because this is largely a study of the relationships between persons and environments, we are concerned with two levels of sampling: sampling of individuals and sampling of environments. At the outset of the study this involves sampling tenth-grade boys as individuals, and public high schools throughout the United States as environments; later in the study the range of environments will become much wider.

The following discussion is concentrated on the sample design and rationale; the procedures for carrying out the sampling, and the results of these procedures (for example, response rates) are reported in the Epilogue to this volume.

Probability Sample. The largest and most important sample in the study is a probability sample of about 2,200 tenth-grade boys in United States public schools. This sample is the result of a multistage design, that is, a design involving several successive stages of sampling. (For an extended discussion of this technique, see Kish, 1965a.)

(a) *First Stage* —A sample of geographic areas was required. The Survey Research Center has developed a sampling framework which divides the United States (exclusive of Alaska and Hawaii) into 88 strata, with each stratum representing approximately two million people. Sixty-two of these strata correspond to separate counties; the rest are grouped in 12 major metropolitan areas. The location of these sample units is shown in Figure 3-1.

(b) *Second Stage*—A single school was sampled in each of the 88 strata.[1]

(c) *Third Stage*—A random sample of about 30 boys was obtained within each selected school.

In the second stage of sampling, high schools were selected with probability of selection proportionate to an estimated number of male tenth-graders. This has the effect of permitting approximately equal number of boys to be selected in each sampled school, while at the same time giving all boys an equal initial probability of appearing in the nationwide sample.[2]

There are administrative advantages to selecting schools with probability proportionate to size, but the major advantages are substantive. Kish has made the point very clearly, and his illustration applies to the present research:

> One of the frightening statements made about American education, around 1957, was that half of the high schools offered no physics, a quarter no chemistry, and a quarter no geometry. It was later

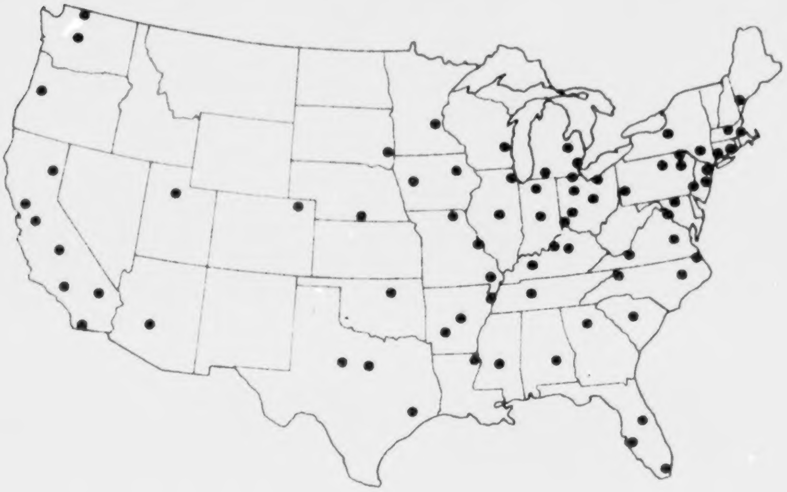
---

[1] For practical considerations, this sampling did not include schools which came into existence later than the Summer of 1964. Also excluded from the sample were very small schools estimated to have less than fifteen boys in tenth grade. The distortion caused by this later omission is very small; it has the effect of excluding less than 2.5 percent of all tenth-grade boys from the sample.

[2] An illustration may show how this principle operates. Consider 600 tenth-grade boys, 450 of them located in School A and 150 in School B. If we set out to select a sample of 30 boys from the 600, then each boy should have an initial probability of selection equal to 30/600 or one in twenty. If we cluster the sample in a single school, and select the school with probability proportionate to the number of tenth-grade boys, then School A will have a probability of selection equal to 450/600 or three quarters, while the probability for School B will be 150/600 or one quarter. But *within* School A the likelihood of any boy being selected into a sample of 30 is 30/450 or one in fifteen, whereas within School B the comparable figures is 30/150 or one in five. Thus while the likelihood of selecting School A is three times greater than the likelihood of selecting School B, the likelihood of any given boy being chosen into a sample of 30 is three times greater within School B than within School A. The two probabilities, then, balance. More precisely, we can calculate each boy's probability of appearing in the sample by multiplying the probability of his school's selection and his probability of being selected as a member of the sample within his school: for boys in School A the calculation is 3/4 times 1/15, equalling 3/60 or one in twenty; for boys in School B the calculation is 1/4 times 1/5, also yielding a probability of one in twenty.

FIGURE 3-1

SURVEY RESEARCH CENTER'S RANDOM SAMPLE OF THE UNITED STATES



Note: Each point indicates one sample unit.

> noted that, although these backward schools were numerous indeed, they accounted for only 2 percent of all high school students. There were many more small schools than large ones, but the small proportion of large schools accounted for a large proportion of students. Moreover, the curricula and facilities of large and small schools can and do differ drastically. Hence, presenting average school characteristics gives a misleading picture of conditions facing the average student.
>
> . . . In my experience, once a researcher . . . has been shown the difference, he will prefer to say, for instance, "High schools without physics courses account for 2 percent of students," rather than "Half of the high schools offer no physics." (Kish, 1965b, 564-565)

In this study, the sample design selects schools according to the number of students they serve, and thus provides an essentially bias-free representation of tenth-grade boys. In addition, the probability sample provides a very useful cross-section of public high schools per se. Although the number of schools is too small to generate extremely precise descriptive data of an institutional kind for the country as a whole, many of the findings about schools will be of considerable value in their own right. Moreover, this probability sample *clusters* boys *according to common environments;* the 30 or so boys within a particular school in the sample are subject to many common experiences. This feature permits the study of organizational environments in ways not otherwise feasible—a point which will be discussed in detail later in this chapter.

An extended discussion of the rationale for defining the sample universe as tenth-grade boys is available elsewhere (Bachman, Kahn, Mednick, Davidson, and Johnston, 1967); for now it is sufficient to summarize the following characteristics of the sample design:

(a) it provides a representative cross-section of virtually all tenth-grade boys in United States public high schools, and also a cross-section of the high schools themselves;

(b) because it is a sample based on grade in school, and is clustered by school, it permits study of schools as organizational environments;

(c) it concentrates on the adolescent years during which most dropping out occurs, many important vocational decisions are made by design or default, and adult values and attitudes come into sharp focus.

Discretionary Sample of Outstanding Schools. While a national cross-section of schools is in many ways ideally suited to our purposes, it is limiting in at least one respect: a representative cross-section may not include very many truly "outstanding" schools. In a study designed to show what school environments *can* do, as well as what they typically do, such a defect could be quite serious. To insure a sufficient number of those rare schools that can be termed outstanding, the research design includes a supplementary sample. This discretionary sample was developed to add 10 schools to the study, schools that were judged by experts in the field of education to be exceptionally effective along one or more of the following dimensions: academic excellence, organizational innovation, student-faculty relations, community relations, innovation in vocational preparation, and promotion of student mental health.

With the exception of their unique basis for selection into the study, the schools in the discretionary sample were given treatment identical to those in the probability sample. In each discretionary school, about 30 boys were selected at random from a complete roster of tenth-graders. Those selected to be invited to participate were not told that their school had been selected for any special reason.

Data Collections from Subjects *

The subjects will be involved in three major data collections, spaced at intervals of approximately 18 months. The first collection of data occurred in the Fall of 1966, when all students were beginning tenth grade. At the time of the second data collection, 18 months later, most students in the sample will be nearing the end of eleventh grade; the remainder will have left the school environment and will be either employed or unemployed. At the time of the third data collection, another 18 months later, virtually all will have left high school; some will have entered college, most will have entered a work environment (civilian or military), and some will be unemployed. These three major stages of data collection, and the nature of the sample at each stage, are represented in Figure 3-2. This picture of our research design is introductory; it is oversimplified in several respects to be noted later in the chapter.

Time 1: October-November 1966. This initial data collection involved a personal interview and a battery of group-administered tests and questionnaires. The content of these instruments is discussed in Chapter 4. Interviews lasted an average of just over two hours. The interviewing was carried out in the schools during school hours, by the Survey Research Center's staff of trained interviewers. One or two interviewers were assigned to each school.

After all interviewing had been completed in a school, the participants as a group spent a morning or afternoon during school hours to complete a battery of tests and questionnaires. These group sessions were conducted by the interviewers, following standardized instructions.

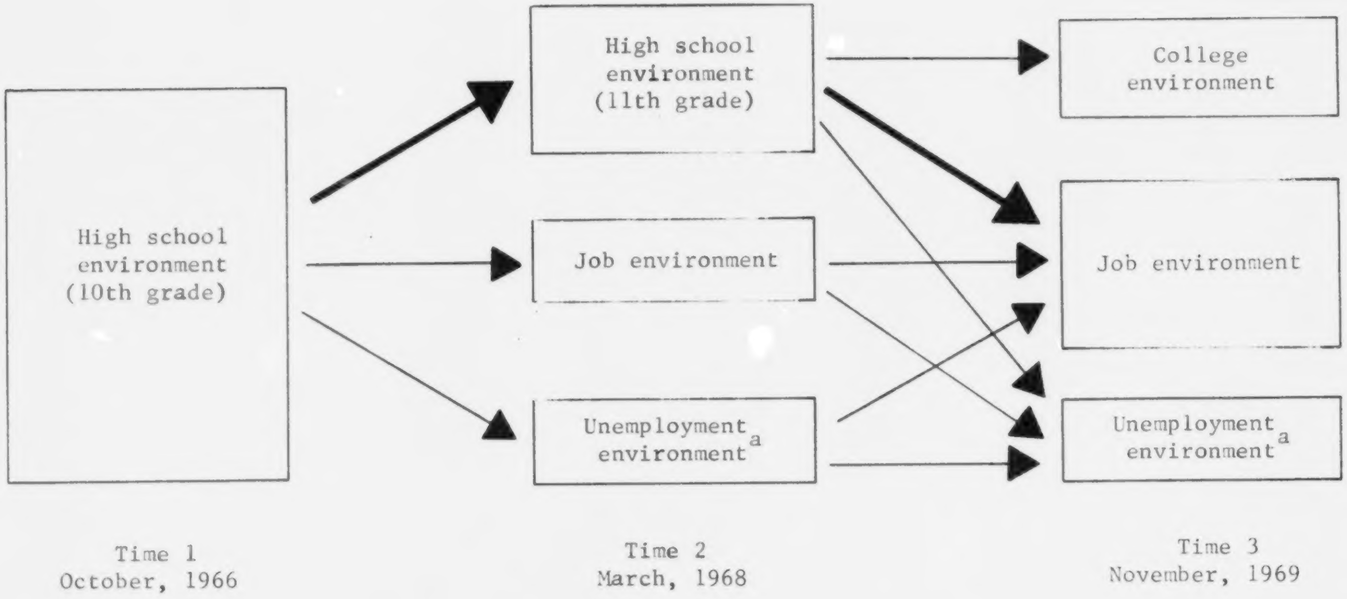
Advantages accrued from carrying out this first stage of measurements in the schools and during school hours. Boys were easily located and physical facilities were good. The school environment also permitted the interviewer to make initial contact and establish rapport under circumstances generally favorable to cooperation. (That participation was a legitimate excuse for absence from class seemed to be a positive incentive for many boys.) The second and third stages of data collection cannot be carried out in the schools for boys who have already left, and will therefore be conducted wholly outside the schools. These arrangements may not be as successful for obtaining cooperation; however, a highly successful *initial* measurement will at least permit some assessment of biases introduced by later refusals to continue in the study.

---

*Since the first printing, there have been several changes in the plans for data collections from subjects. These changes are noted in the Preface, page vii.

FIGURE 3-2

MAIN STAGES OF DATA COLLECTION


High school environment (10th grade)
High school environment (11th grade)
Job environment
Unemployment environment[a]
College environment
Job environment
Unemployment environment[a]
Time 1
October, 1966
Time 2
March, 1968
Time 3
November, 1969

---

[a] The term "unemployment environment" is an aid to communication, provided that it is not interpreted literally as referring to a specific "environment." For our purposes, an individual is defined as "unemployed" if he is neither in school nor in a work environment.

BEST COPY AVAILABLE

Time 2: April-May 1968. At this point in time many of those in our sample who will leave school without graduating will already have done so. Those remaining in school will be near the end of eleventh grade. The data at this stage will be collected through a personal interview and a short battery of questionnaires. Many of the measures taken at Time 1 will be repeated in order to obtain measures of change. This combination of interview and questionnaires will be administered individually by Survey Research Center interviewers, and is expected to require about two and one-half hours. Since it is important to have the interviewing conditions as similar as possible for dropouts and "stay-ins", it would be undesirable to conduct interviews in school buildings. It is likely that the interviewing will be done in the subjects' homes; for those in school and/or holding jobs it will be done "after hours".

Time 3: November-December 1969. By this time, virtually all subjects will have left high school, either as graduates or as dropouts. Many will be in their first full-time job, some will have entered post-high school education or training, some will combine work with further training, and some will be engaged in neither work nor training. The procedures of data collection, as well as much of the measurement content, will be closely parallel to those at Time 2.

Interim Contacts with Subjects. In order to ensure some continued contact with the panels of subjects during the 18-month intervals between measurements, project newsletters are mailed to each boy at 6-month intervals. A fact sheet is included in each such mailing, requesting the respondent to update his address and answer some brief questions about his current educational and occupational status. This procedure is intended to:

—maintain the subject's sense of involvement in an ongoing research project;

—remind him that the project has a continued interest in him;

—maintain an up-to-date listing of addresses to facilitate the next major contact;

—obtain critical data on dropping out and employment on a 6-month basis rather than an 18-month basis.

To fulfill our obligation to inform the subjects on some of the major research results, the periodic newsletter will be continued even after the Time 3 data collection. In this way the newsletter may be a mechanism for extending data collection on a limited basis. Finally, maintenance of contact with the subjects helps lay the groundwork for follow-up studies in the more distant future.

Reduction in Panel Sizes at Times 2 and 3. The probability sample outlined earlier in this chapter gives equal representation to all tenth grade boys in U.S. public schools. For some purposes it would be more efficient to use a sample that overrepresents boys in minority groups or in lower socioeconomic levels—in short, those most likely to become dropouts. However, the selection of such a sample would have been exceedingly difficult. At the same time, other purposes of the study seem best served by a sample that permits generalization to the entire population of boys in public high schools. Our solution to this problem has been to ***begin*** the longitudinal study with a bias-free cross-section. Later, we anticipate that the panel will be reduced to de-emphasize those subgroups which are less important to the major goals of the study (such as the subgroup of white students planning to enter college). While some subgroups may be reduced by half or even three-quarters, none will be completely eliminated. Accordingly, it will always be possible through the use of compensatory weighting, to return to an unbiased estimate of the population from which the original representative sample was drawn. Although this inevitably leads to some increase in sampling error, for our purposes it is tolerable.

The systematic reduction in size of both the probability sample and the discretionary sample is scheduled to occur prior to the Time 2 data collection.[3] This reduction will not exceed 40 percent of the original sample and will be limited to subgroups of boys who have remained in school up to or near Time 2. Thus, any boy who leaves school prior to Time 2 thereby ensures his continued active status in the study. The selection of subjects to be placed on an inactive status will be based on information obtained from the Time 1 data collection, from the subsequent fact sheets, and perhaps also from school enrollment records just prior to Time 2.

Those boys placed on inactive status will not be lost to the study entirely. Although they will not be interviewed at Times 2 and 3, they will continue to receive the project newsletter and will be included in the fact-sheet data collections.

---

[3] There will, of course, be sample reductions quite apart from the research design—some boys will move, some will choose not to continue participating, and others will be impossible to locate. Implications of this kind of "panel mortality" are considered later in this chapter.

The sequence of data collection described above forms the backbone of our longitudinal design. It is summarized in the center column of Figure 3-3.

Special Panel for Pilot Studies. A special panel was selected to provide pilot data prior to the major data collections. In March 1966, 30 to 35 tenth-grade boys were selected at random from each of three Michigan high schools, and asked to participate in the study. The treatment of these one hundred or so boys was kept as close as possible to that anticipated for the Time 1 data collection from subjects in the main panels.

The pilot study serves a number of important functions in the overall research design. It provides an opportunity to test out instruments and procedures in terms of their acceptability to the subjects and their ease of administration; matters such as length of time involved, difficulties in question wording, and gaps in instructions to interviewers can be examined. In addition, there is much to be learned from the coding, processing, and analysis of the pilot data. In particular, these data provide the opportunity to improve the quality of instruments by removing or modifying ineffective parts.

The schedule for the pilot panel data collections is presented in the left column of Figure 3-3. Also displayed are the feedback links from the pilot study to the main panel data collections.

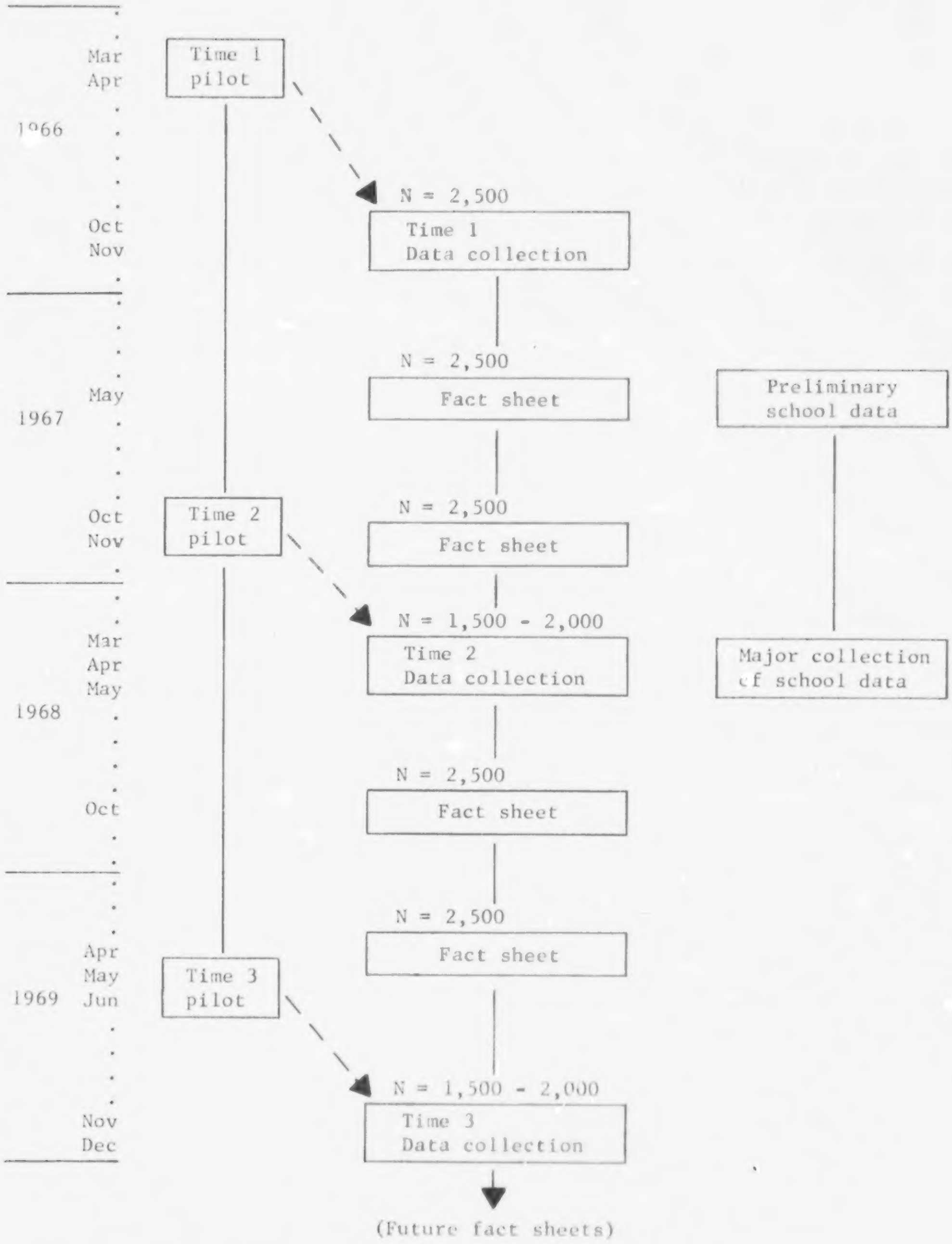
Measures of School Environments

Much information about school environments will be collected from the panels of subjects during the three major data collections, particularly at Time 2. Certain aspects of the school as an environment for students are best examined through the eyes of the students themselves. Moreover, because the sample of boys is clustered by school, we do not have to rely on the report of just one student to describe a school; instead, we can assess each school in terms of many responses, and we can evaluate the accuracy of such responses partly in terms of their consistency within schools. When 20 or 30 boys selected at random in a school all say their teachers are excited about teaching it is likely that the school is in fact distinguished by such enthusiasm.

Students are one good source of information about the qualities of the school that affect them, but only one. To answer questions about "how the school got that way," for example, we must use information ordinarily not available to students—information about such matters as teacher qualifications, student-

FIGURE 3-3

TIME SCHEDULE OF ALL DATA COLLECTIONS


Mar
Apr
1966
Oct
Nov
May
1967
Oct
Nov
Mar
Apr
May
1968
Oct
Apr
May
1969 Jun
Nov
Dec
Time 1 pilot
N = 2,500
Time 1 Data collection
N = 2,500
Fact sheet
Preliminary school data
Time 2 pilot
N = 2,500
Fact sheet
N = 1,500 - 2,000
Time 2 Data collection
Major collection of school data
N = 2,500
Fact sheet
N = 2,500
Fact sheet
Time 3 pilot
N = 1,500 - 2,000
Time 3 Data collection
(Future fact sheets)

teacher ratios, expenditures per-pupil, and a whole range of administrative policies and practices. For such data we will turn to school administrators, counselors, and teachers.

The procedures for data collection are outlined below and summarized in the right column of Figure 3-3; the content of the measurement is outlined in Chapter 3.

Preliminary Data from Principals. In May 1967, the principals of each participating school provided certain factual "demographic" information about their schools. This information was obtained by a mailed questionnaire, designed to permit much of the information to be provided by administrative assistants rather than by the principals themselves.

Major Data Collection from Principals, Teachers, and Counselors. In March and April 1968—the period also scheduled for Time 2 data collection from students—a major effort will be made to collect information about the structure and functioning of the schools as organizations. Whereas the preliminary data collected from principals in May 1967 stressed factual or "demographic" data about the schools, emphasis in the 1968 data collection will be on such issues as organizational policies, administrative style, and communication and influence patterns.

Sources of information at this point will be:

—a questionnaire obtained from each principal;

—a self-administered confidential questionnaire to a random sample of 15 to 20 teachers in each school;

—a questionnaire to counselors or guidance directors to obtain information pertinent to the school counseling program.

When appropriate, several sources (including students) will be asked to provide information on the same topic, thus providing checks on consistency of perceptions. For example: some principals may feel that they are always available to teachers when needed, whereas their teachers perceive them as quite inaccessible. To take another example: in some schools the teachers might think that students have abundant opportunity for counseling and guidance from teachers, while the students themselves feel there is not enough.

Changes in School Environment over Time. Nearly all measures of school characteristics obtained from principals, teachers, and counselors are to be collected at a single point in time (March and April 1968). In this respect, the design treats school organizations as if they were constant during the entire period of study. In fact, of course, schools will be changing during this period, and some will change more than others. However, we assume that during the three-year span, changes in the schools will be much less pronounced than changes in the boys. In view of this great difference in relative rates of change, and in view of the positive advantages of simplifying of some conceptual and analytic problems faced in the study, we have deliberately adopted the strategy of viewing the school environments as relatively constant. Furthermore, the environmental changes of primary interest here are not those which occur within given environments during the passage of time; rather, they are changes from one environment to another, as when a boy leaves the school environment and enters a particular work environment. The decision to treat schools as stable environments is subject to review and may be modified, especially where there are changes in principals, major policies, or district boundaries.

Measures of Work Environments

The major alternative to the school environment is the work environment. Unfortunately there is no opportunity in this study to obtain a sample of boys clustered by work environment. Accordingly, it will not be possible to provide the same degree of information about our subjects' work situations as we can provide for their schools. In fact, our data about the working environment will be limited almost entirely to the reports provided by individual boys, primarily at Times 2 and 3, about their individual work situations. The accuracy of such data are not subject to the same consistency checks possible for data based upon a number of informants in the same objective situation, such as a number of students describing the same school. However, because of our intention to describe the school and work environments in parallel terms insofar as possible, many of the questions to be asked about the job are identical or very similar in form to those asked about school. It may thus be possible to make some estimate of the accuracy of our work-related measures from that of their school-related counterparts.

Additional Issues in the Research Design

Throughout this chapter we have discussed major plans and decisions about the research design, and also the rationale underlying these plans and decisions. In the process, we have touched on many of the problems facing any such design. A number of issues remain, however, including panel mortality, self-selection, and interviewing effects.

Some Oversimplifications Corrected. It is the nature of theory and research to simplify things—a point well illustrated in much of the preceding discussion. While in general we consider this tendency useful as well as necessary, several areas of possible oversimplification can now be given further specification.

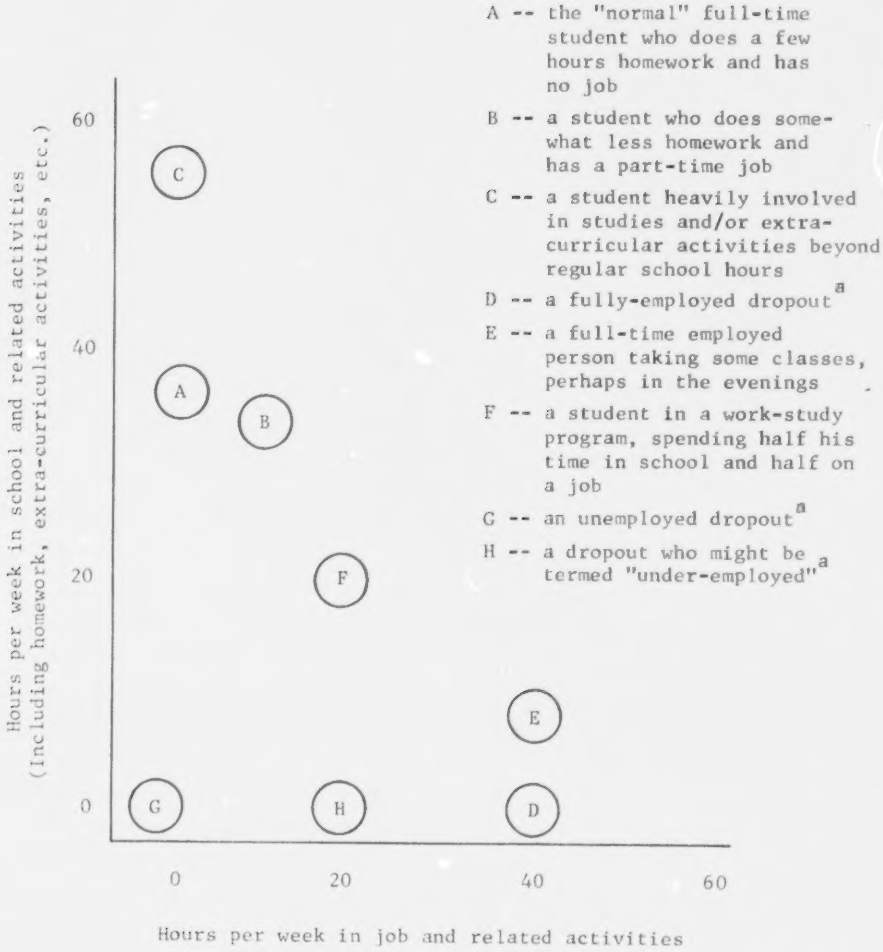
In Figure 3-2, and in much of our previous discussion, a person is located in one and only one environmental category at any point in time. In fact, however, a number of boys find themselves in *both* school and work environments for much of the time period we are studying. Thus it will be important in much of our research to make finer distinctions than the three categories of school, job, and unemployment. A more accurate way of describing a subject is shown in Figure 3-4.

In Figure 3-4 a person is defined as unemployed if he has no time commitment to either school or a job. There is no dimension in the figure to refer to hours per week spent in "unemployment and related activities"; it is difficult to define such a dimension except in negative terms. It may help to make the point if we consider how we would define or describe a person's "Saturday environment" or his "after-hours environment"; except for those individuals whose Saturday or after-hours activities are unusually regular and patterned, the task proves more difficult than fruitful. Thus, while it may at times be a useful short-cut to communication (as in Figure 3-2), to speak of school, work, and unemployment as alternative environments, it seems clear that we cannot speak seriously about an "unemployment environment" in the same sense that we can speak of a school or job environment. Instead, we characterize an "unemployed" subject as one who lacks any involvement in a school or job environment.

Another oversimplification in Figure 3-2 is that only three points in time are noted; in fact, however, the possible sequences of school, work, and unemployment are much more varied and more complicated. One illustration may make this point. Figure 3-5 represents the hypothetical case history of a boy who enters our research sample in tenth grade, works half-time during the following summer, enters a work-study program in eleventh grade, takes another full-time job and does not return to school, leaves that job and becomes unemployed, and finally takes another job. If we limited our consideration to the point of major data collection only, we would describe the subject as being in School at Time 1, in a work-study program at Time 2, and in a job at Time 3; we would miss the fact of dropping out, and the progression from one job to unemployment and eventually to another job at Time 3. The data collections at Times 2 and 3 will therefore

FIGURE 3-4

TIME COMMITMENTS TO SCHOOL AND JOB ENVIRONMENTS


Hours per week in school and related activities
(Including homework, extra-curricular activities, etc.)
60
40
20
0
C
A
B
F
E
G
H
D
0
20
40
60
Hours per week in job and related activities

A -- the "normal" full-time student who does a few hours homework and has no job

B -- a student who does somewhat less homework and has a part-time job

C -- a student heavily involved in studies and/or extra-curricular activities beyond regular school hours

D -- a fully-employed dropout[a]

E -- a full-time employed person taking some classes, perhaps in the evenings

F -- a student in a work-study program, spending half his time in school and half on a job

G -- an unemployed dropout[a]

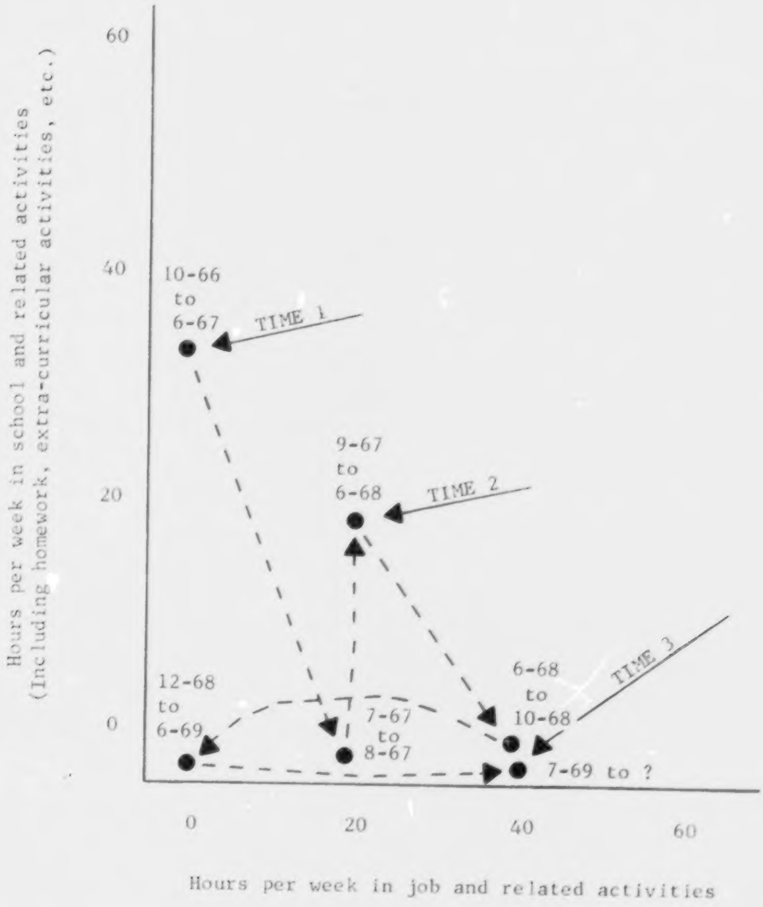
H -- a dropout who might be termed "under-employed"[a]

---

[a] The distinction between dropouts and graduates requires information in addition to that provided in this display.

FIGURE 3-5

A HYPOTHETICAL CASE HISTORY



Each point on the chart represents a balance of time commitments to school and/or job environments; the dates shown next to each point indicate the period for which that balance applies. The dotted arrows trace the course of the subject's history. Also shown is the subject's location at each of the three major data collections (Time 1, 2, and 3).

go beyond assessment of current environments and obtain an environmental history for the intervals between measurements.

Involvement in school and work environments have been illustrated so far only in terms of time spent in each. Other aspects of involvement also will be considered. We may sometimes find that students in work-study programs are the equals of full-time students in their involvement in school, while also maintaining a very strong commitment to their jobs. And we may find that many full-time school attenders are "psychological dropouts". We will attempt to locate boys in terms of these dimensions as well as in terms of time commitment.

Panel Mortality. Sample losses in our study may be compared with previous studies having some of the same characteristics and similar problems. In a three-year study of the formation and change of economic attitudes carried out by the Survey Research Center, 61 percent of the original sample participated through the complete series of five interviews. Twenty-seven percent of the original sample moved; it was possible to follow only half of the movers, but analysis of the initial data indicated virtually no differences between those that could and could not be followed. Sixteen percent of the original sample refused at some point to continue the sequence of interviews. Nine percent could not be located for reinterviewing. Sobol (1959) summarizes the effects of the panel losses as follows:

> . . . the demographic structure of the panel after five rounds of interviewing remained very similar to that of the original panel. There was some tendency, however, for a disproportionate number of renters, low income people, and people not interested in the subject matter of the study to drop out after repeated interviews. (p. 52)

The same general problems exist in our study, so we can estimate sample losses likely to occur due to each of the causes noted above. Kish (1965a) reports and several studies confirm (Sobol, 1959; Katona and Mueller, 1967), that up to 20 percent of households in the United States move each year. It seems reasonable to expect up to 30 percent of our subjects to change residence during the 18-month intervals between interviews. When feasible, we will continue to collect interview data from boys who move, although in such cases the school environment data will no longer refer to a school in our original sample. A special mail questionnaire probably will be sent to those who move to areas where it would not be possible to send an interviewer. This would be particularly useful in the case of those in overseas military installations and those in institutions.

It is much more difficult to estimate panel losses due to an inability to locate subjects or due to refusals to participate. There is good reason to expect losses in our study to be lower than in the cited studies of economic attitudes. First, the continuing link with the school in the case of most subjects provides an additional means for locating boys who cannot be reached at home. Second, the content of the interview and questionnaires deals largely with attitudes toward school, occupational aspirations, and similar issues; these matters seem to be of great importance and interest to the panel members, and this may help to ensure their continued involvement in the study. (As is noted in the Epilogue, the initial refusal rate for the study was exceedingly low, an early indicator of a high level of interest and involvement.)

Throughout the sequence of interviews, much effort will be devoted to keeping in touch with all subjects (including those who are changed from active to inactive status in the panel reduction). The periodic newsletters and fact sheets serve this purpose. In spite of such efforts, however, there will be some loss of subjects. Fortunately, the data collected at Time 1 will permit many of the kinds of comparison used by Sobol (1959); this will help us locate and correct any serious biases and distortions due to panel mortality.[4]

Repeated Interviewing Effects. It has long been recognized in the physical sciences, and more recently acknowledged in the social sciences, that it is impossible to measure something without at the same time producing some change in it. No doubt, participation in the three-year course of this study will have some effect on subjects. It is important to consider the probable extent of such effects (Lazarsfeld, 1941) and their impact upon the findings of the study.

In the economic attitude study reported by Sobol, the panel was a representative sample of households in the United States; because of this it was possible to compare the panel reinterview data with cross-sectional household surveys being carried out at approximately the same time. If no serious changes in responses occurred because of repeated interviewing, the panel data would be very similar to the cross-sectional data. The conclusions based on such a comparison were " . . . there was little indication that the attitudes of a panel after four rounds of interviewing differed from those of a random sample". (Sobol, 1959, p. 52)

---

[4] The experience of Project TALENT is also relevant to our study. Flanagan and Cooley (1965, 1966) report follow-up responses to mail-out questionnaires ranging from 37 percent to 69 percent; of more direct importance to the present study, they report *interview* responses (using Retail Credit Company investigators) were always above 90 percent on follow-up studies.

Although it is our expectation that serious distortions will not occur due to repeated interview effects, this assumption is not taken for granted. On the contrary, it is important to make provisions in the research design for detecting such distortions. It is not possible to find appropriate "control group" respondents in other surveys; accordingly, the following procedures were developed to ensure that appropriate comparison respondents are available when needed. In 25 of the schools in the probability sample, a supplementary sample of 15 to 20 boys per school was drawn at random, following the same procedures used in selecting the original sample in each school. The names and addresses of these boys were recorded and filed, but no contact of any kind was made to indicate this selection to the boys. We will select at random at Time 3 about one hundred of these boys (four per school) as a control group to be matched with the other boys coming from the same schools; the boys in the control group will be invited to participate, and the Time 3 interview and questionnaire measures will be administered to them.[5]

In the case of each school providing control group subjects, we assume that there were at the start no systematic differences between the control subjects and those selected to participate fully. Therefore, any significant differences between the control group and the main panel of subjects can properly be attributed to some aspect of the experience of participating in the study. If such differences appear, the conclusions of the study must take account of them. To the extent that few or no differences appear, the validity and general applicability of the study findings will be confirmed, so far as the source of bias is concerned.

Self-selection of the Dropout Sample. Short of an experiment to decide randomly that some boys should be removed from school and others should not, there is no way of getting a "pure" measure of the *effects* of dropping out—there will always be some contamination with the causes of dropping out. When one attempts to assess the *effects* of dropping out, it is impossible to contrast

---

[5] The use of approximately 25 schools rather than the complete set was dictated primarily by administrative convenience; for control group purposes, this will not cause any appreciable loss in accuracy. While the plan calls for about one hundred boys in the control group, the file of *potential* control subjects is large enough so that several hundred could be used, if it appeared necessary. However, if a bias is not detected with a control group of one hundred boys, we will conclude that it is not large enough to represent a serious problem.

"dropouts" with otherwise comparable "stay-ins" because the very fact of dropping out (or getting pushed out) is evidence of some *prior* difference. To put it another way, it is a contradiction to say, "Suppose two boys are identical, then one drops out of school and the other does not . . . ."

The best available solution for this serious problem in research design is that provided by longitudinal design. As suggested at the beginning of this chapter, our basic strategy is to measure as many prior conditions as possible, and then to contrast changes that occur following drop-out with changes that accompany continuing in school. The longitudinal design does not completely eliminate the bias of self-selection, and it is important that this be recognized. But in our view it is the best available strategy for dealing with this complex problem.

Summary

The central feature of the design is a panel survey, beginning with a stratified national sample of tenth-grade boys and a supplementary sample of boys in 10 "outstanding" high schools. The design calls for data to be collected from these boys at three points in time: October-November 1966; April-May 1968; and November-December 1969.

Further data, dealing with school environments, are to be obtained from principals, teachers, and counselors in the hundred high schools participating in the study.

A number of design problems that must be treated throughout the study include: panel mortality (the loss of some subjects in follow-up surveys), repeated interviewing effects, and self-selection of the dropout sample.

This chapter has omitted two major topic areas of research design:

—measurement procedures and instruments, treated in Chapter 4.

—procedures of data analysis, discussed in Chapter 5.

Chapter 4

MEASUREMENT CONTENT

The broad range of measurement used in this study was mentioned briefly in the discussions of conceptual framework in Chapter 2 and in describing the research design in Chapter 3. A more detailed description of that measurement content is presented in this chapter, beginning with a general overview of the measures. Included in this overview is a listing of variables corresponding to the major categories introduced in Chapter 2. A detailed outline of the components of the Time 1 measurement makes up the balance of this chapter.

Overview of Measures

Table 4-1—a full listing of the variables measured—has been organized so that the major categories of variables correspond to the order of their presentation in Chapter 2, Figure 2-2. In addition to specifying dimensions to be measured in each category, Table 4-1 indicates for each dimension whether it is to be measured at Time 1, 2, 3, or in the data collections from schools.

Data Collections from Subjects. As noted earlier, our design is focused on changes occurring over time, and requires that the same (or parallel) measures be repeated at several points in time. Much of what is said about the measures at Time 1 therefore applies as well to Time 2 and 3 measures. Table 4-1 shows the degree of comparability in the three data collections.

There are a few important exceptions to the general practice of repeating measures. Most of the ability measures obtained at Time 1 will not be repeated. Neither will it be necessary to repeat many questions about background characteristics of parents, since most of these (such as highest grade in school attained by father and mother) are unlikely to change over the time span of the study. Other characteristics of the home environment, such as family relationships and disciplinary practices, are somewhat more likely to change as boys pass through adolescence; therefore, if such measures can be included within the interview time limits they may be repeated.

Certain measures will be introduced or expanded at Times 2 and 3. A number of questions about the school environment were asked of the boys at Time 1, but the purpose was largely to provide base-line data about attitudes toward school. The boys will have had a much more extended exposure to the school by Time 2, however, and will be able then to provide more in-depth information. A series of questions tailored for boys who have left school before graduating will be asked for the first time at Time 2; the series will be repeated as applicable at Time 3. Some questions about jobs will also be added and expanded at Times 2 and 3.

Measures of School Environments. We discussed earlier our intention to treat school environments as relatively stable, that is, as evolving and changing much less rapidly than the boys who are our subjects. Accordingly, most school characteristics will be measured at single points in time—May 1967 and March-April 1968. The general procedures for these data collections are outlined in Chapter 3. The school dimensions to be measured are listed in Table 4-1 and include such broad categories as ability requirements, motive gratification and frustration, relationship of the school to community environments, financial resources and practices, organizational structure, administrative policies and practices, and aggregate characteristics of school personnel and students.

The instruments for measuring school environments will draw heavily on similar studies that have already been completed. In particular, we are utilizing the accumulated experience of Project TALENT (Flanagan, et al., 1962) and the Coleman Report (Coleman, et al., 1966). We are also using or modifying for use in schools instruments developed for measuring organizational characteristics in industrial and governmental settings.

Thus far in this volume, discussions of variables and categories of variables have been organized according to the conceptual design of the study. What is required now is an extensive description of the nature and sources of the measures used at Time 1. In order to facilitate reference to the instruments themselves, the following description is presented in the order in which the measures were actually administered. The interview schedule and the questionnaire used in the study are incorporated herein as Appendix A and Appendix C, respectively.

Readers who want to concentrate on areas of special interest should use Table 4-1 as a guide inasmuch as the table shows the page where each variable is described in detail and lists the questionnaire items included in each index or measure.

TABLE 4-1

CLASSIFICATION OF VARIABLES BY INSTRUMENT AND TIME OF MEASUREMENT[a]

Measured at Time:					
1	2	3	PART A - PERSON	Instrument/section/items	Chapter page
			Aptitudes and abilities		
X		Opt	General intelligence	Interview K	63
X			Intelligence (minimum educational loading)	Tests A, D, G	66, 68, 69
X			Vocabulary level	Tests C, F	67, 68
X			Arithmetic reasoning	Tests E	68
X		Opt	Reading ability	Tests B	67
X			Figure-ground discrimination	Tests G	69
X			Maze tracing	Tests D	68
X	X	X	Job information	Tests H	69
			Motives		
X	Opt		"School motivation"	Q'aire B 31, 33-38, 40, 41, 43-48, 50, 57	75
X	Opt	Opt	Social approval	Q'aire A 117, then even numbers 118 through 176	74
X	X	X	Independence	Interview G 1(a)	62
X	X	X	Achievement	Interview D, G (3a)	60, 62
X	Opt	Opt	Affiliation (in general)	Interview D	60
X	X	X	Affiliation with peers	Interview G 2(a)	62
X	X	X	Affiliation with adults	Interview G 4(a)	62

[a] The variables listed in this table are discussed in this chapter on the indicated pages.

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	PERSON (Continued)	Instrument/section/items			Chapter page
			Motives (Continued)				
X	X	X	Avoid failure: text anxiety	Interview	G	5(a)	62
X	Opt			Q'aire	A	121, 125, 129, 133, 137, 141, 145, 149, 153, 157, 161, 165, 169, 173, 177, 179	74
X	X	X	Self-development	Interview	G	6(a)	62
X	X	X		Q'aire	A	7, 17, 22, 26, 34, 38, 47, 55, 64, 74, 79, 84, 94, 104, 109	74
X	X	X	Self-utilization (in general)	Interview	G	7(a)	
X	X	X		Q'aire	A	3, 12, 30, 43, 50, 60, 69, 99, 115	74
X	X	X	Use of intelligence	Interview	G	8(b)	62
X	X	X	Use of reading ability	Interview	G	9(b)	62
X	X	X	Use of physical abilities	Interview	G	10(b)	62
			Affective states (mental health)				
X	X	X	Self-esteem	Q'aire	A	1, 5, 9, 13, 15, 19, 24, 29, 39, 44, 48, 63	73
X	X	X	Stability of self-esteem	Q'aire	A	52, 57, 62, 66, 71	73
X	X	X	Independence	Q'aire	A	2, 10, 14, 16, 25, 112	74

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time:				Instrument/section/items			Chapter page
1	2	3	PERSON (Continued)				
			Affective states (Continued)				
X	X	X	Emotional dependence	Q'aire	A	4, 8, 11, 32, 100, 114	74
X	X	X	Impulse to aggression	Q'aire	A	18, 21, 81, 97	74
X	X	X	Overt aggression	Q'aire	A	6, 91, 113	74
X	X	X	Depression	Q'aire	A	70, 88, 89, 93, 96, 111	73
X	X	X	Anomie	Q'aire	A	23, 31, 36, 41, 45, 53, 98, 107	73
X	X	X	General anxiety	Q'aire	A	42, 59, 67, 80, 87, 95, 106	
X	X	X	Resentment	Q'aire	A	56, 72, 75, 76, 78, 83, 85	73
X	X	X	Anxiety and tension	Q'aire	A	27, 33, 68, 77, 92	73
X	X	X	Irritability	Q'aire	A	37, 40, 46, 49, 51, 54, 58, 61	74
X	X	X	Guilt	Q'aire	A	86, 102, 103, 105, 108	73
X	X	X	Social support	Q'aire	A	73, 82, 90, 101	74
X	X	X	Satisfaction with life	Q'aire	A	28, 51, 65	74
X	X	X	Sadness	Q'aire	A	20, 35, 110	73
X	X	X	Physical symptoms	Q'aire	D	44-53	77
X	X	X	General happiness	Interview	C	1-5	60

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	PERSON (Continued)	Instrument/section/items			Chapter page
			Self-concept				
X	X	X	Self-concept of school ability	Interview	B	1-3	59
X	X	X	Self-concept on ten dimensions[a]	Interview	G	1(a), 2(a), 3(a), 4(a), 5(a), 6(a), 7(a), 8(a,b), 9(a,b), 10(a,b)	62
X	X	X	Self-development (aspired)	Interview	G	11(a-e)	62
X	X	X	Self-utilization (perceived)	Interview	G	12(a-e)	62
X	X	X	Dissatisfaction with self	Interview	G	13, 14	62
			Values[b]				
X	X	X	Kindness	Q'aire	C	1, 17, 31, 43	76
X	X	X	Honesty	Q'aire	C	5, 13, 21, 28, 34, 38, 47	76
X	X	X	Social responsibility	Q'aire	C	9, 25, 29, 41	76
X	X	X	Reciprocity	Q'aire	C	10, 16, 26, 30, 36, 42, 51	76
X	X	X	Social skills	Q'aire	C	11, 18, 27, 32, 42, 44	76
X	X	X	Academic achievement	Q'aire	C	3, 19, 37, 45	76
X	X	X	Physical development	Q'aire	C	4, 12, 20, 33, 46	76
X	X	X	Religiousness	Q'aire	C	6, 22, 35, 48	76
X	X	X	Self-control	Q'aire	C	7, 14, 23, 39, 49	76
X	X	X	Independence	Q'aire	C	8, 15, 24, 40, 50	76

[a] The ten dimensions are listed in the "person-environment fit" section of this table.

[b] Refers to the value a person assigns to this attribute, rather than his possession of it.

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	PERSON (Continued)	Instrument/section/items			Chapter page
			Attitudes				
X	X	X	Preference for "a job that doesn't bug me"	Q'aire	C	52, 55, 56, 58, 59, 61, 64	76
X	X	X	Preference for "a job that pays off"	Q'aire	C	53, 54, 57, 60, 62, 63	76
X	X	X	Internal vs. external control over one's fate (perceived)	Q'aire	C	65-78	76
X	X	X	Faith in others	Q'aire	C	79-81	
X	X	X	Political alienation/attitudes	Q'aire	C	85-87	77
X	X	X	Ideal control over school/job	Q'aire	B	4-6	75
X	Opt	Opt	Flexibility	Q'aire	A	116, 119, then every 4th number through 175, 178	75
X	Opt	Opt	Reasons why boys drop out	Interview	H	1,2	63
			Plans				
X	X	X	Future plans	Interview	F	1-9	62
X	X	Opt	Importance of grades to plans	Interview	F	4(e)	
X	X		Intentions to drop out	Interview	H	3(a-g)	63
X	X		Probability of dropping out	Q'aire	B	58-82	75

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	PERSON (Continued)	Instrument/section/items	Chapter page
			Behaviors		
X	X	X	Academic achievement (grades)	Interview B 13	59
X	X	X	Social and dating behaviors	Q'aire D 1, 2, 4	77
X	X	Opt	Rebellious behaviors in school	Q'aire B 83-95	75
X	X	X	Delinquent behaviors	Q'aire E 1-26	78
	X	X	Dropping out of high school		
	X	X	Jobs entered/jobs resigned		
			Physical characteristics		
X			Race	Interview L 1	64
X	X	X	Appearance	Interview L 4, 5	64
X	X	X	Physical maturity	Interview L 6	64
X	X	X	Height and weight	Q'aire D 61, 63	77
X	X	X	Job history	Interview E 1(a-f), 2(a-f)	60
X	Opt	X	Past experiences	Q'aire D 83(a-tc)	78
X	X	X	History of schooling	Interview I 13-17	63

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	Data from school staff	PART B - SCHOOL AND JOB ENVIRONMENTS	Instrument/section/items	Chapter page
				(Including Military Service)		
				Ability requirements		
X	X	X	X	Intelligence requirements	Interview G 8(c,d)	62
X	X	X	X	Reading ability requirements	Interview G 9(c,d)	62
X	X	X	X	Physical strengths and endurance requirements	Interview G 10(c,d)	62
				Motive gratification/frustration		
X	X	X	X	Effort required	Interview E 1(a) G 10(d)	60 62
X	X	X	X	Time required	Interview B 5 E 1(c)	
X	X	X		Salary, wages	Interview E 1(b), 3-5	60
X	X	X	Opt	Status	Interview A 4(b), 9 E 1(a)	60
X	X	X	X	Achievement opportunities and requirements	Interview G 3(b), 5(b,c)	62
X	X	X	Opt	Self-development opportunities and requirements	Interview G 6(b, c)	62

60

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	Data from school staff	SCHOOL AND JOB ENVIRONMENTS (Continued)	Instrument/section/items	Chapter page
				Motive gratification/frustration (Continued)		
X	X	X	Opt	Self-utilization opportunities and requirements	Interview G 7(b,c), 8(c,d), 9(c,d)	62
X	X	X	Opt	Affiliation opportunities and requirements, adults	Interview G 4(b)	62
X	X	X		Affiliation opportunities and requirements, peers (including girls)	Interview G 2(b)	62
X	X	X	X	External structure vs. autonomy (relates to independence needs)	Q'aire B 1-3	75
X	X	X			Interview G 1(b)	62
X	X	X	X	Personal relations with teachers/supervisors	Q'aire B 7-27	75
	Opt		X	Physical attractiveness of surroundings		
				Other characteristics of jobs only		
	X	X		Security		
X	X	X		Job description	Interview E 1(a-c)	60

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time:			Data from school staff	SCHOOL AND JOB ENVIRONMENTS (Continued)	Instrument/section/items	Chapter page
1	2	3				
				Other characteristics of schools only		
			X	Relationship of school to extra-school environment		
				Openness to inputs		
				Ability to influence environments		
				Accreditation		
			X	Financial resources and practices		
			X	Structure		
				Size (total)		
				Number of grades offered		
				System of offices and roles ("organizational) chart")		
				Size of classes		
				Programs, courses, and activities offered		
				Ability grouping		
				Counseling, guidance and placement facilities		

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	Data from school staff	SCHOOL AND JOB ENVIRONMENTS (Continued)	Instrument/section/items	Chapter page
				Other characteristics of schools only (Continued)		
				Administrative policies and practices		
			X	Organizational innovation, goal setting, planning, implementation, assessment		
			X	School policies on:		
				admission		
				expulsion		
				re-admission		
				placement (in programs)		
				advancement		
				evaluation		
			X	Personnel policies:		
				recruitment		
				evaluation		
				advancement		
				salary structure		

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	Data from school staff		Instrument/section/items	Chapter page
				SCHOOL AND JOB ENVIRONMENTS (Continued)		
				Other characteristics of schools only (Continued)		
				Administrative policies and practices (Continued)		
			X	Patterns of power, influence and communication re:		
				curriculum		
				classroom materials		
				other school policies		
			X	Staff-school personnel (administration, teachers, counselors, specialists)		
				Number, shortages, turnover, growth/decline		
				Sex, race, background (proportions)		
				Qualifications		
				Continuing education		
				Levels of satisfaction, involvement, loyalty		

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time:			Data from school staff	SCHOOL AND JOB ENVIRONMENTS (Continued)	Instrument/ section/items	Chapter page
1	2	3				
				Other characteristics of schools only (Continued)		
				Student body		
			X	Selection of students, number of "feeder schools", etc.		
X			X	Racial mix	Interview L 1	64
	X	X	X	Student turnover and dropout rates		
		X	X	Percent going to college		
X	X	X	X	Delinquency and misconduct	Q'aire E(see above)	78
X	X			Average levels and heterogeneity/homogeneity along many other person dimensions		
X	X	Opt	Opt	Peer group structure	Interview A 1-11	59

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time: 1	2	3	PART C - HOME ENVIRONMENT	Instrument/section/items	Chapter page
			Family relationships		
X	Cpt	Opt	Closeness to father	Q'aire D 7, 10, 11, 12	77
X	Opt	Opt	Closeness to mother	Q'aire D 8, 19, 20	77
X	Opt	Opt	Parental control	Q'aire D 25-29	77
X	Opt	Opt	Lack of reasoning with son	Q'aire D 9, 36, 39, 41	77
X	Opt	Opt	Parental punitiveness	Q'aire D 31-35, 37, 38, 40-43	77
			Parental characteristics		
X			Age	Q'aire D 80, 81	77
X			Education	Interview I 7(a-c), 8(a-c)	63
X	X	X	Occupation	Interview I 5(a-d), 6(a-d)	63
X			Religious preference	Q'aire D 69	77
X			Political preference	Q'aire D 66, 67	77
			Sibling characteristics		
X			Age	Interview I 9(a), 10(a)	63
X		Opt	Education	Interview I 9(c-d), 10(c-d)	63
X		Opt	Occupation	Interview I 9(e), 10(e)	63
X	Opt	X	Resources in home environment	Q'aire D 74-78, 82(a-s)	78
X			Income	Q'aire D 72, 73	78

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Measured at Time:					
1	2	3	PART D - INTERPERSONAL INFLUENCE	Instrument/section/items	Chapter page
			(From any environment)		
			Influence sending,[a] re: Personal plans and behaviors		
			Topics:		
X	X		Dropping out	Interview F 10, 10(a)	62
X	X		Grades	Interview F 11, 11(a)	62
X	X	X	Delinquency	Interview F 12, 12(a)	62
X	X	X	Further education	Interview F 13, 13(a-b)	62
	X	X	Changing jobs		
	X	X	Military service		
			Characteristics of friends		
X	X	X	Age	Interview A 1(a)	59
X	X	X	Education	Interview A 1(b-c)	59
X	X	X	Occupation	Interview A 1(d)	59
X	X	X	Adult model(s)	Interview B 16(a-c), 17(a-c)	59

[a] Influence senders include: parents, siblings, teachers, friends and others; supervisor(s) and others at work at Time 2 and Time 3 only.

TABLE 4-1 (Continued)

CLASSIFICATION OF VARIABLES BY
INSTRUMENT AND TIME OF MEASUREMENT

Data to be obtained from other sources			PART E - COMMUNITY CHARACTERISTICS	Instrument/section/items	Chapter page
			Region		
			Rural-urban-suburban		
			Socioeconomic level		
			Population turnover, growth/ decline		
			Job market		
Measured at Time:					
1	2	3	PART F - PERSON-ENVIRONMENT FIT		62
			"Fit" along ten dimensions:		
X	X	X	Independence	Interview G 1	
X	X	X	Affiliation with friends	Interview G 2	
X	X	X	Achievement	Interview G 3	
X	X	X	Affiliation with adults	Interview G 4	
X	X	X	Avoiding failure	Interview G 5	
X	X	X	Self-development	Interview G 6	
X	X	X	Self-utilization	Interview G 7	
X	X	X	Intelligence	Interview G 8	
X	X	X	Reading ability	Interview G 9	
X	X	X	Physical condition (being "in shape")	Interview G 10	

Administration of Interviews, Tests, and Written Questionnaires

In the Fall of 1966, each boy was interviewed individually and also wrote answers to a battery of group administered tests and questionnaires. The interviews, lasting about two hours each, and the tests and questionnaires, lasting about three hours, were administered at the subject's school by a Survey Research Center interviewer.

The interviewers are permanent employees of the Survey Research Center, and thus had received prior training in conducting survey interviews. On the average, they have about five years of experience in survey research; most have attended college and many have received degrees. Their average age is 49 years. Ninety-seven percent of the interviewers for this data collection were women.

Several weeks before the first data collection (Fall, 1966), a detailed set of instructions describing each interview question, its objectives, and the range of acceptable responses was sent to each interviewer. Guided by these instructions, the interviewer conducted a practice interview with a boy in the age range of the study subjects. The practice interview was then reviewed by the regional field supervisor (who is also a permanent Survey Research Center employee), and any problems were discussed with the interviewer.

A second set of instructions to be used in the administration of the group tests and questionnaires was sent at the same time. This set included detailed specifications for the administration of the standardized measures included in the test battery. The purposes of each test and questionnaire section were also described.

The interviewer collaborated with school officials to work out time schedules for administrating the interviews and group measures. The frequent cooperation of the guidance counselors assured that most interviews were conducted in private rooms. Most were held during school hours, with each interviewer usually conducting one in the morning and one in the afternoon. Responses to interview questions were recorded verbatim, except for multiple choice items. At the end of each interview, any unusual circumstances or events were noted.

Time 1 Measurement Content

The remainder of this chapter consists of three major sections devoted to more detailed descriptions of the content of the interview, test battery, and questionnaire. Readers not interested in such material may want to skip directly to Chapter 5.

Time 1 Interview

The major sections of the interview along with their sources are listed in Table 4-2; the questions are briefly described in the following pages. (The complete interview is included as Appendix A.)

Peer Relationships

This section includes questions asking the boy about his friends (who they are and how many there are), reference groups, sociometric status (as he views it), models or reference figures, and the social climate of the school. These social relationships are viewed as various sources of pressure in the environment which may influence decisions regarding school and work.

Self-Concept of School Ability

This section attempts to measure perceptions of school ability and level of achievement in school; it includes a series of questions about perceptions and attitudes regarding school and teachers, and what it takes to do well in school.

TABLE 4-2

ORGANIZATION OF INTERVIEW

	Section	Source of questions
A.	Peer relationships	Coleman, 1961; project staff; other SRC studies
B.	Self-concept of school ability	Project staff
C.	General happinesss	Previous SRC studies
D.	Projective measure of motives	Gurin, et al., 1960; Atkinson 1958; Smith and Feld
E.	Job history and financial status	Project staff
F.	Future plans, interpersonal influence	Project staff
G.	Person-environment fit, self-identity dimensions	Project staff
H.	Dropping out and reasons for doing so	Project staff
I.	Demographic information	Project staff; Coleman, 1961
J.	Paragraph comprehension test (oral)	Gray, 1963
K.	Quick test (QT) of intelligence	Ammons & Ammons, 1962
L.	Post-interview information	Project staff

BEST COPY AVAILABLE

General Happiness

This is a dimension of mental health which is also explored in a series of questionnaire items described below. Included here are questions on the boy's general satisfaction with his present environment, sources of happiness and unhappiness at present as well as his idea of his future happiness. Finally, one question is devoted to the kinds of worries he has about the present or for the future.

Projective Measure of Motives

Since this is an unusual section of the interview in terms of method and coding, it deserves special attention. Three items from the verbal stem version of the Thematic Apperception Test were used. The purpose is to elicit protocols to be scored for achievement and affiliation imagery. The procedures follow those used by Gurin, et al. (1960) in a national survey. The items were obtained from Atkinson (1958). The use of verbal stems instead of pictures was dictated by the need to avoid the social class or racial bias which are intrinsic to the standard TAT picture cards.

Scorers were trained according to the procedures recommended by Smith and Feld (Atkinson, 1958, Appendixes I and II). In addition, discussions of scoring decisions with an "expert" scorer were conducted after each set of practice protocols had been independently scored by the trainees. Median rank-order correlations for Practice Sets A-F were .96 for *n* Achievement and .87 for *n* Affiliation.

Scorers were given additional practice with protocols obtained from the pilot study (described in Chapter 3). Stories were scored for *n* Achievement and *n* Affiliation by the "expert" scorer and the trainees. Differences in scoring decisions were reviewed, which led to the development of a set of scoring "conventions" (see Appendixes D and E). Due to this new development, one final scoring session was necessary. Table 4-3 presents the scoring reliabilities between trainees and "expert" for this additional scoring session.

Job History and Financial Status

The questions on job history are a straightforward set of questions on the type, nature, and extent of work and earning experience, past and present. The boy is also asked to describe his job-seeking behavior and his seeking of information concerning

TABLE 4-3
SCORER RELIABILITIES: PROJECTIVE MEASURE OF MOTIVES

Motive	Scorer	Reliability index[a]
n Achievement	1 with expert	%[b] = .90 Rho[c] = .92 r[d] = .90
n Affiliation	2 with expert	% = .93 Rho = .83 r = .77
	3 with expert	% = .93 Rho = .87 r = .87
	2 with 3	% = 1.00 Rho = .97 r = .87

[a] Each reliability index was calculated using a sample of 30 boys; motive scores were totals based on three stories.

[b] % = percent imagery agreement. This index is computed as follows:

$$\frac{2(\text{number of agreements between scorer and expert on presence of imagery})}{(\text{no. of times scorer scored imagery present})+(\text{no. of times expert scored imagery present})}$$

[c] Rho = rank-order correlation on total score assigned.

[d] r = product-moment correlation on total score assigned.

BEST COPY AVAILABLE

employment. This information provides relevant base line data at Time 1 for later comparison to Time 2 and Time 3 data.

Questions are asked about financial status, including the sources of the boy's money (work and other), how it is disbursed, whether he feels he has enough, and the extent to which he is responsible for managing his own money.

Future Plans

In this section questions are asked about intentions regarding completion of high school and job seeking, expectations about employment and unemployment, and other long-range plans. The sections also includes questions designed to measure time perspective and realism.

Interpersonal Influence

These questions ascertain the boy's perceptions of how "significant others" in his life (parents, siblings, teachers, and friends) would feel if he were to drop out of school, get bad grades, get into trouble, or decide not to go to college.

Person-Environment Fit (Satisfaction with School and Self)

Information is gathered here about the boy's needs and his perception of the school environment as a source of need satisfaction and a source of demands. A selected set of dimensions is used, including achievement, physical development, and intellectual development. The person-environment fit measures are assumed to be predictors of satisfaction and adjustment and of decisions to make changes (such as, drop out of school). These questions are designed to be convertible readily to describe job environments during the subsequent data collections.

Self-Identity Dimensions

Self-Development. Several questions ask the boy to state ways in which he would like to improve himself, and to indicate how he tries or would try to make such improvements.

Self-Utilization. A similar set of questions asks the boy to enumerate those things that he enjoys doing and can do well. He is also asked how much chance he gets to do these things, and (if applicable) what keeps him from doing as much as he'd like.

Two additional items in this section, obtained from Douvan and Adelson (1966), ask the boy to indicate how he would change himself if he could, and in what ways he would like a son to be different from himself.

Dropping Out and Reasons for Doing So

The reasons for dropping out of school are explored. The boy is asked why he thinks some boys drop out; then he is asked whether he himself ever thought of dropping out of school and, if so, why. If applicable, he is also asked if he presently plans to drop out, and when.

Demographic Information

A group of questions is asked that deal with important aspects of the home and family environment. Questions about parents deal with nativity, occupation, and education. Questions about siblings deal (when applicable) with grade in school, graduation from school, post-high school education, and employment. Additional questions concern the boy's educational history.

Paragraph Comprehension Test (Oral)

The intent in incorporating the oral reading paragraph was to determine quickly whether the boy could read well enough to take the self-administered test battery. The interviewers were instructed to keep a record of non-readers and give them special assistance during the administration of the group questionnaires and test battery. The paragraph, selected from the Gray Oral Reading Tests (1963), required fourth grade reading ability. The boy was handed a card, told to read the paragraph aloud, and then was asked several questions about it. The errors in oral reading and the answers were recorded. If five or more errors were made, the boy was flagged as a non-reader.

Quick Test (QT) of Intelligence

This test was chosen because it is practical for a survey operation, and it is a valid and reliable individual measure of intelligence which adds to the data obtained from the group administered ability tests, particularly for those individuals who are usually penalized in such settings (Ammons and Ammons, 1962). It was found in the pilot study that interviewers who are inexperienced at test administration can be easily trained to administer the QT (Mednick, 1967). It is based on the recognition vocabulary, uses pictorial representation, and does not depend on verbalization or reading ability. It therefore seemed particularly well suited to a study having a special interest in the educationally disadvantaged.

The QT has three forms, each having a stimulus plate on which there are four line drawings. There is also a record sheet on which are printed the stimulus words and correct answers for all three forms. This is used for administering items and recording answers and enables the examiner to score the responses while testing. The words are arranged in approximate order of difficulty. An item cardboard which has all the items may be handed to the subject so that he can read the items while the interviewer calls them out. If the subject cannot read at an adequate level the item card is not used. The administration time varies from 6 to 10 minutes.

Post-Interview Information

The interviewer is asked to make a series of ratings immediately following the interview. One of these will ask about the boy's race; this judgment by the interviewer is the measure of race to be used in all the pertinent data analyses.

Time 1: Group Test Battery

An obvious and important factor leading to success or failure in a school or job environment is ability. Therefore, a battery of ability measures was included to provide us with a standard set of measures on the entire sample. The resulting scores will be used in several ways.

(a) as predictors to the major criteria,
(b) as a set of basic descriptive data on the major panels,
(c) as control variables in many of the major analyses.

A major problem in selecting the tests for this battery was a time limitation of one hour. The decision was made to include brief measures of different aspects of ability in order to obtain several different (separate) scores rather than an omnibus test resulting in one overall measure.

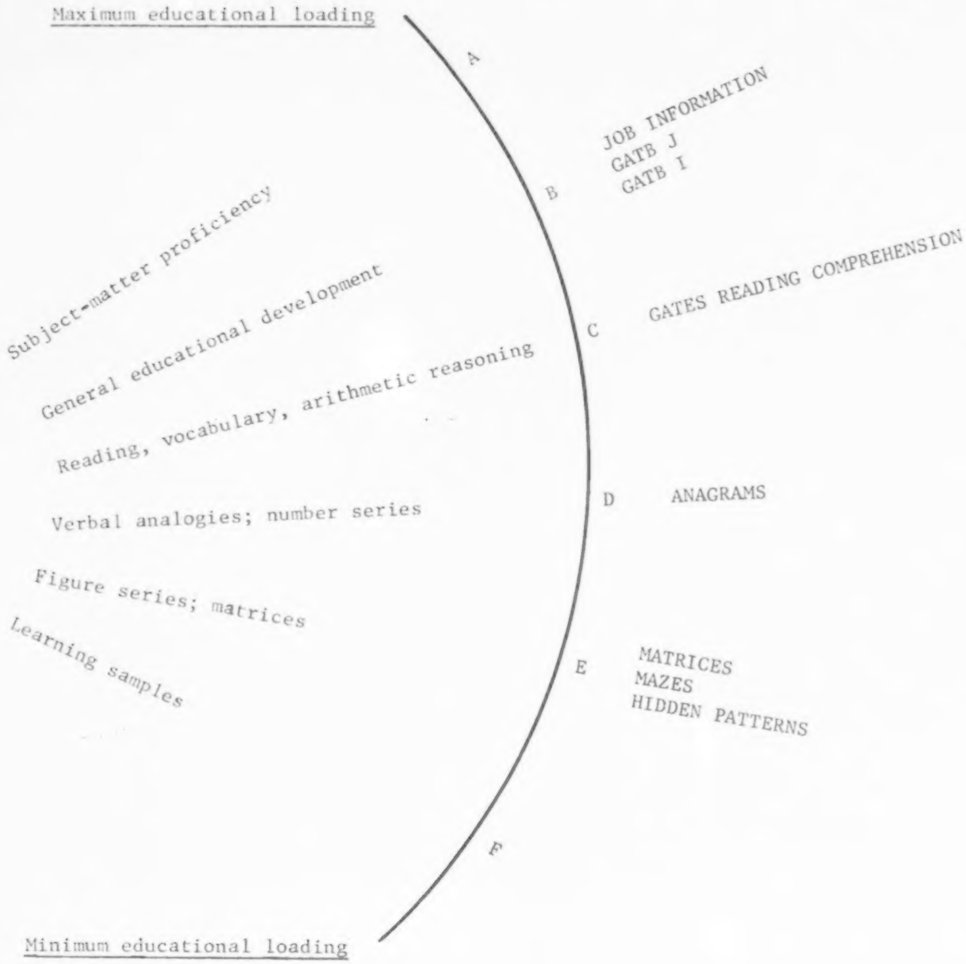
The measures chosen fall roughly into three of the categories of a spectrum described by Cronbach and illustrated in Figure 4-1.[1] According to this, ability measures can range from those which are strictly measures of educational outcome to those which are least dependent on schooling. It may be seen in Figure 4-1 that the scale is anchored at the educational end A with tests of specific subject matter proficiency. At C the tests measure the more general areas of achievement such as reading ability and size of vocabulary, while at E are those tasks which demand the ability to deal with abstract concepts but require

---

[1] This is an adaptation of Figure 41 from *Essentials of Psychological Testing* by Lee J. Cronbach (Harper & Row, 1960).

FIGURE 4-1

SPECTRUM FOR COMPARING TESTS OF SCHOLASTIC APTITUDE[a]


Maximum educational loading
A
JOB INFORMATION
GATB J
GATB I
B
Subject-matter proficiency
General educational development
C
GATES READING COMPREHENSION
Reading, vocabulary, arithmetic reasoning
D
ANAGRAMS
Verbal analogies; number series
Figure series; matrices
Learning samples
E
MATRICES
MAZES
HIDDEN PATTERNS
F
Minimum educational loading

---

[a] Adaptation of Figure 41 Essentials of Psychological Testing by Lee J. Cronbach (Harper & Row, 1960).

BEST COPY AVAILABLE

little familiarity with the examiner's language. Our measures, as can be seen in Figure 4-1, fall roughly into categories B, C, and E.

The function of the tests at the two ends of this spectrum are quite different. Those towards the top are designed only for the assessment and prediction of school success. Regardless of what an individual's real "intelligence" is, one who has done well in school in the past (and this is reflected in performance on the A-B type tests) is likely to do well in the future. Of course for other purposes, treatment of an individual based on the assessment of undeveloped potential is needed. It may be helpful in comparing individuals from different educational and cultural backgrounds, for descriptive as well as for predictive purposes. We will now describe each measure. The components of the battery, in order of their administration, were as follows:

(a) Matrices
(b) Gates Test of Reading Comprehension
(c) Anagrams
(d) Maze Tracing
(e) General Aptitude Test Battery (GATB), Part I—Numerical ability
(f) GATB, Part J—Verbal ability
(g) Hidden Patterns
(h) Job Information Test

Matrices

This particular form of matrices test is being developed by the United States Employment Service as part of a battery of culture-fair aptitude measures. Because this version is a preliminary one, normative validity or reliability data are not yet available. Raven's Progressive Matrices (the original matrix test after which the present version is patterned) has been in use since 1938 and is thought of as being relatively free from cultural and educational bias (Raven, 1951).

The matrix problem is a two-dimensional analogies problem. The figures change from left to right according to one principle and from top to bottom by another. The examinee must identify these principles and apply them in order to be able to choose the design that solves the problem. An example of a matrix problem is given in Appendix E. This form of problem is highly flexible, with a wide range of difficulty possible. It is quite amenable to group administration and one of its prime virtues is a minimum of verbal communication. The examinee learns the test requirements by example. Raven described his test as "suitable for comparing people with respect *to their immediate capacities for observation and clear thinking."* When used with a good vocabulary test, it provides a rounded picture of intellectual development. It tests a person's capacity to "apprehend meaningless figures presented for his observation, see the relations between them, conceive the nature of the figure completing each system of relations" and thus "develop a systematic method of reasoning."

This test may be a useful predictor for individuals who have good reasoning ability but who may have difficulty in school achievement because of non-intellectual factors. It is useful where communication is difficult because of a language problem. In addition, it has been used with a fair amount of predictive success in non-Western cultures (Vernon, 1965).

The internal consistency of the present form of matrices will be evaluated by means of an item analysis. It is of interest to note that the similar RPM has reported retest reliabilities ranging from .83 to .93. Validity studies reported by Raven (1951) include correlations of .60 and higher between the RPM and standard intelligence measures such as the Webster-Bellevue and the Stanford-Binet.

Gates Reading Comprehension

The source of this test is the Gates Reading Survey, Teachers' College, Columbia University. Because time limitations precluded a more comprehensive reading survey, this test was included as a standard measure of reading achievement. The test consists of 21 passages arranged in order of increasing difficulty. It indicates how complex and difficult a passage the pupil can comprehend with reasonable thoroughness. The time allowed is 20 minutes; in the pilot study this was found to be adequate for most examinees. We obtained an adequate spread of scores and meaningful relationships to the other ability tests in the battery.

Anagrams

This verbal task is one of Guilford's measures of divergent thinking, and was included as a verbal task in addition to the more conventional GATB. The respondent is asked to write down as many words as he can using the letters contained in the word "generation." He is given three minutes in which to do this. This type of task has been used by Guilford in factor analytic studies of productive thinking and has been found to relate to other tasks in which there is the possibility of numerous correct answers (Guilford, 1956).

Mazes

A widely used measure of intelligence, the maze (Cronbach, 1960), requires the person to visually explore as quickly as possible a wide or complicated spatial field. The examinee is instructed to find and mark an open path through them. "Finding a way through a paper maze requires ability to scan the field quickly for openings, follow paths with the eye and reject false leads" (French, et al., 1963, p. 42). Porteus (1966) has reported in great detail on his research with it, particularly in settings where more culturally biased tests could not be used. The mazes have also been regarded by Porteus as a measure of impulsivity and he has also found scores on the test to be related to delinquent behavior. This test is one of the subtests in the performance sections of the Wechsler-Bellevue (WB) and also the newer Wechsler Adult Intelligence Scale (1955). The version presented in our test battery is taken from the *Kit of Cognitive Factors*. The administration time is 6 minutes.

GATB, Part J: Vocabulary, and Part I: Arithmetic Reasoning

The source for the GATB is the United States Department of Labor, Bureau of Employment Security. Administration time is five minutes for each test. These are two parts of the well standardized multifactor test battery developed by the United States Employment Service for vocational counseling (Super, 1957). They are two of three GATB tests which show the highest factorial validity for general intelligence.

Part J: *Vocabulary* measures verbal aptitude as well as intelligence. It consists of sets of four words. The examinee indicates which two words have either the same or opposite meanings.

Part I: *Arithmetic reasoning* measures intelligence and numerical aptitude. It consists of verbally expressed arithmetic problems.

Normative data and a detailed presentation of the development of this test battery are presented in the manual (GATB Manual, Sec. III, 1962). The original sample used for development of occupational validity consisted of a representative sample of 4,000 employed adults. Numerous validation studies for various occupations have been reported. Many studies have indicated that the GATB is usable with high school students down to the ninth grade level.

These measures have been compared with other standard measures and representative data are presented in Table 4-4. It seems quite safe to conclude that GATB measures are significantly related to other measures of intelligence.

In another validity study the use of GATB subtests for predicting overall high school success was evaluated. Table 4-5 shows the substantial relationship obtained between scores on the GATB and high school success (grade point average and/or class rank). The table also indicates that a test score obtained as early as the ninth grade provides reasonably good prediction of future high school success (GATB Manual, Sec. III, Ch. 19, p. 180).

Considerable information on the reliability of the GATB subtests is also available. Such studies have been reported on samples of employed workers, high school and college students, and United States Employment Service job applicants. Test-retest coefficients ranged in the .80's and .90's. The results of a study of alternate test reliability are given in Table 4-6. In view of the possibility of a retest at Time 2 or Time 3, this is of greater interest to us. Because some practice effects are found, an alternate form would be preferable for such retests (GATB Manual, Sec. III, Ch. 15, p. 150).

Hidden Patterns

To obtain an indicator of the cognitive style, of field independence-dependence, this short speeded test obtained from the *Kit of Cognitive Factors*, compiled by French, et al., is used. It is one of a group of measures labeled with the factor name "Flexibility of Closure." This factor is defined as "the ability to keep one or more configurations in mind so as to make identification in spite of perceptual distractions." This is related to performance on the Embedded Figures Test (Witkin, et al., 1954).

Job Information Test

This set of items was designed by Karen E. Paige and Jerald G. Bachman of the project staff to measure knowledge about a wide variety of occupations. The questions are concerned with what it is like to be in an occupation (such as, income, status, and working hours), and also with the requirements for entering an occupation (for example, educational ability).

In the pilot study, which involved about 175 tenth-graders and 175 twelfth-graders in three Michigan high schools, 44 job information items were administered. An analysis was run for

TABLE 4-4

THE CORRELATION OF GATB APTITUDE SCORES WITH INTELLIGENCE MEASURES[a]

Sample	Intelligence measure	GATB scale	r[b]
High school students (N = 150)	Otis	General intelligence Verbal aptitude	.76 .70
College freshmen (N = 50)	Wechsler-Bellevue	General intelligence	.80
High school seniors (N = 187)	California Test of Mental Maturity	General intelligence Verbal aptitude Numerical aptitude	.81 .69 .70
High school seniors (N = 323)	Army General Classification Test	General intelligence Verbal aptitude Numerical aptitude	.70 .61 .60

[a] Source of this data is the GATB Manual, Sec. III, 1962, Ch. 14.

[b] Product-moment correlation coefficients.

TABLE 4-5

THE RELATIONSHIP OF GATB AND HIGH SCHOOL SUCCESS IN THE SAME SAMPLE AT TWO GRADE LEVELS

Grade in which tested	Aptitude factor	Product-moment correlation
12th (N = 663)	G--Intelligence	.56
	V--Verbal aptitude	.58
	N--Numerical aptitude	.55
9th (N = 663)	G--Intelligence	.53
	V--Verbal aptitude	.52
	N--Numerical aptitude	.56

each grade providing split-half reliability estimates and some item analysis data. The split-half reliability for the 44 items was .81 for tenth-graders and .66 for twelfth-graders. The item analysis data provided a comparison of the top-scoring (for the total of 44 items) with bottom-scoring third. An additional dimension of discrimination was provided by the comparison of tenth-graders with twelfth-graders. The best items for our purposes were those that sharply separated the top from bottom thirds as well as the tenth from twelfth-graders. A set of 25 "best" items was selected on this basis. Early analyses of the Time 1 data indicate an average split-half reliability of about .65 to .70[2] for the 25 item version of the test.

TABLE 4-6

THE RELIABILITY OF ALTERNATE FORMS OF THE GATB
(High school and college students)

	Product-moment correlation coefficients	
Aptitude factor	Forms A-B (N = 320)	Forms B-A (N = 265)
G--Intelligence	.87	.86
V--Verbal aptitude	.83	.81
N--Numerical aptitude	.84	.85

Time 1: Self-Administered Questionnaire

As can be seen in Table 4-7, the questionnaire is composed of five major sections, each containing one or more series of

---

[2] Kuder-Richardson formula 20.

TABLE 4-7

ORGANIZATION OF QUESTIONNAIRE

PART A	Affective states
	Personality dimensions
	Self-development and self-utilization Need for social approval Fear of failure: test anxiety scale Flexibility
PART B	School opinions
	School influence description Attitudes toward teachers Attitudes toward school Probability of dropping out of school Deviant behavior in school
PART C	Values and attitudes
	Cultural values Job attitudes Rotter internal vs. external control scale Political attitudes and information
PART D	Life outside of school
	Social and dating behaviors Family relationships Physical health and appearance Political and religious preferences Socio-economic status Mathis Environmental Participation Index (EPI)
PART E	Delinquent behaviors

items pertaining to groups of variables. The complete questionnaire is presented in Appendix C and the specific items used in each scale are listed in Table 4-1.

A few words are in order about measures which were considered, but not included. The Minnesota Multiphasic Personality Inventory (MMPI) has been used in studies of school children (Hathaway and Manachese, 1963), but was rejected because of its difficulty and length, its emphasis on pathology, and its inclusion of many "sensitive" items. The High School Personality Quiz (Cattell, 1962) was also considered. While it is factorially sound, studies of the predictive validity of the various scales have not been too encouraging (such as Peterson, 1965). Finally, the length of any of these inventories would have precluded the inclusion of other items germane to the project goals.

The content of the questionnaire was therefore mainly dictated by an interest in having measures of personality, interest, and attitude dimensions of interest to us with reasonable validity. In the following pages, the nature of each measure and its source are described. Specific reliability and validity information of a measure are given if available.

Affective States (Part A)

The following scales, grouped according to source, represent positive or negative "symptoms" of mental health:

Self-Esteem (14 items). This index is a combination of two scales. Seven of the items are from a study of individuals changing jobs (Cobb, et al., 1966). The remaining items were used by Rosenberg (1965) in a study of adolescence. Item-index score and inter-item product-moment correlations were obtained using the pilot study data. The results indicate that the two self-esteem measures are virtually identical; therefore, in the interest of higher reliability, the two sets of items have been combined to form a single index.

Stability of Self-Esteem (5 items). This scale was developed by Rosenberg (1965) in his study of adolescents. It attempts to discern the degree to which an individual's self-esteem is subject to short-range fluctuation.

Depression (6 items); *Resentment* (7 items); *Anxiety and Tension* (5 items); *Guilt* (5 items); *Sadness* (3 items). The items in this set of scales are taken from a longer scale designed to measure the components of depression. A paper by Hunt, Singer, and Cobb (1967) describes a detailed factorial study of the full scale; also included are reliability and validity data.

Anomie (8 items). This scale was adapted from the measure of anomie developed by Srole (1956).

Independence (6 items); *Emotional Dependence* (5 items). These items were selected from an inventory developed by Sampson (1960). Since a factor analytic study indicated that independence-dependence is not a continuum, we have included separate measures of each.

Impulse to Aggression (4 items); *Overt Aggression* (3 items); *Irritability* (8 items). These items were used by Cobb, et al. (1966); they are part of the Buss-Durkee Inventory (Buss, 1961), which is based on the assumption that "it is necessary and useful to divide hostile-aggressive behavior into subclasses" (Buss, 1961, p. 169). A complete description of the construction of the inventory is given by Buss (1961).

Social Support (4 items). This measure was obtained from Cobb, Brooks, and Kasl (1965). In the pilot study the range of response on the items was judged to be adequate.

Satisfaction with Life (3 items). These items were obtained from Ferman (1964).

Personality Dimensions (Part A)

Needs for Self-Utilization (9 items); *Self-Development* (15 items). This is a group of items designed to measure these two constructs as defined by French (French and Kahn, 1962; French, 1963). The measures and constructs are described in detail in a dissertation by Long (1967).

Need for Social Approval (41 items). This is a measure of the need for social approval, developed by Crowne and Marlowe (1964). These authors describe the scale as measuring the tendency to avoid self-criticism and "to choose self-evaluative statements which summatively portray a stereotypically acceptable self-image" (Crowne and Marlow, 1964, p. 180). The "social desirability response set" is thus viewed as a central characteristic, a concept about the self and not simply a *deliberate* conforming to a socially acceptable set of self-descriptive statements. It is therefore used in our analysis, not to detect deliberate faking as in the L or K scale of the MMPI, but as a more basic motivational dimension.

Fear of Failure: Test Anxiety Scale (16 items). This is a series of questions asking the respondent for his feelings about taking tests. It is an adaptation by Irwin Katz from the Mandler-Sarason Test Anxiety Questionnaire (1952). It is to be used as an operational measure of fear of failure as conceptualized in Atkinson's theory of achievement motivation (1964).

Flexibility (17 items). This is the flexibility scale from the California Personality Inventory. In a study of organizational stress, Kahn, et al. (1964) found this personality dimension to be related to the amount of role conflict an individual experiences and his style of coping with such conflict.

School Opinions (Part B)

This portion of the questionnaire is devoted to a set of items designed to measure a variety of attitudes specific to the school situation.

School Influence Description (6 items). The questions included here are designed to provide some data on students' perceptions of the actual and ideal distribution of influence in the school environment. The items are patterned on a group used in studies of control in organizations by Tannenbaum (1961), Tannenbaum and Georgopoulos (1957), and Tannenbaum and Kahn (1957).

Attitudes Toward Teachers (23 items). These items ask the student a variety of questions about his feelings toward teachers. Because they are patterned on items typically used in the Survey Research Center's Organizational Behavior Program to assess supervisor-subordinate relationships, the items are readily convertible to "job-environment" items to be used at Times 2 and 3. This illustrates use of a dimension common to both school and job environmental settings.

Attitudes Toward School (27 items). In this measure of "school motivation," the items are grouped into two scales measuring extrinsic and intrinsic motivation. Pilot study results showed a high level of item-total index score relationships for these two aspects of motivation.

Probability of Dropping Out of School (24 items). This is a measure of dissatisfaction with school and the probability of this dissatisfaction leading to dropping out. In the pilot study the index score based on this group of items correlated negatively with school motivation.

Deviant Behavior in School (12 items). These items were written by the project staff as a measure of rebellious and deviant behavior in terms of aggression, rule breaking, and poor school work. Respondents were assured specifically in this section of the confidential nature of their responses.

Values and Attitudes (Part C)

This section of the questionnaire contains a group of value dimensions, attitudes toward jobs, and political attitudes and information.

Cultural Values. Measures were included to examine ten value dimensions that are generally highly approved in the United States. Many of these dimensions reflect what has been called the "protestant ethic." In each case the respondent is asked to what extent he considers it to be "a good thing" for people to act in a way that reflects the value.

The following dimensions were developed from items taken from Scott (1965): *Kindness* (4 items), *Social Skills* (6 items), *Academic Achievement* (4 items), *Physical Development* (5 items), *Religiousness* (4 items), *Self-Control* (5 items), and *Independence* (5 items).

Several additional dimensions were developed from items taken from Scott (1965) and Klinger (1961), and items developed by project staff: *Honesty* (7 items), *Social Responsibility* (4 items), and *Reciprocity* (7 items).

Job Attitudes. A number of questions measure general attitudes about the kind of job a respondent would like to have. Item analyses yielded two indexes based on these items: "a job that doesn't bug me" (7 items), and "a job that pays off" (6 items).

Internal vs. External Control Scale. This dimension concerns the respondent's perception of whether one's fate is controlled by himself or by external forces. The scale was developed by Rotter to study the following hypothesis:

> If a person perceives a reinforcement as contingent upon his own behavior, then the occurrence of either a positive or a negative reinforcement will strengthen or weaken the potential for that behavior to occur in the same or similar situation. If he sees the reinforcement as being outside his own control . . . i.e., depending upon chance, then the preceding behavior is less likely to be strengthened or weakened. (Rotter, 1966, p. 5)

This theoretical view leads to the development of a measure of internal-external control (I-E Scale). The stages in the evolution of the scale, and considerable reliability and validity data, are reported by Rotter (1966). In a stratified national sample of one thousand children Rotter found a positive relationship between internality and social class when race and intelligence were held constant. It will be of great interest to attempt to replicate this particular finding using our own probability sample. In addition, this dimension will be of interest with regard to a number of criteria and other attitudinal measures as well.

Preliminary studies of the Rotter scale have indicated that two subscales may be derived. One subscale is composed of a set of items which presents all statements in the first person (for example, "When I make plans I am almost certain that I can make them work"). The other set of items presents statements in an impersonal or third person form (such as, "Becoming a success is a matter of hard work; luck has little or nothing to do with it"). Item analyses have demonstrated that these two types of items form separate groups. Those items expressed in the first person are the ones more closely related to individual differences among respondents. In the present study, therefore, two internal-external indexes are included—a "first person" index (6 items) and a "third person" index (9 items).

Political Attitudes and Information. A short series of questions, developed by the Political Behavior Program of the Survey Research Center, were included as an attempt to measure the respondent's attitudes toward "the government." Three of these items intercorrelated highly enough in the pilot study to be combined into an index of "political alienation." The other items will be analyzed individually.

An additional set of four questions asked the respondent to name the President, Secretary of State, Secretary of Defense, and the two U.S. Senators from his state. This short test of political information is included as a relatively objective indicator of the respondent's level of political involvement.

Life Outside of School (Part D)

Social and Dating Behaviors (5 items). These items, obtained from the Project TALENT questionnaire, provide a three-item index of frequency of social activities and two other items about dating behavior (Flanagan, et al., 1964).

Family Relationships (36 items). This is a series of questions about the quality of the respondent's relationship with his parents. Several items focus on the source and nature of authority and control in the family.

Physical Health and Appearance. A 22-item checklist of somatic complaints was obtained from the questionnaire used in the study "Americans View Their Mental Health" (Gurin, et al., 1960). Several additional items asked the respondent for his height and weight, and whether he felt too tall or too short, overweight or underweight.

Political and Religious Preference. The respondent was asked to describe the political preferences of his parents and himself. Also asked was the respondent's religious preferences and those of his family, his frequency of church attendance, and the importance of religion to him.

Socioeconomic Status. A series of questions used by Project TALENT (Flanagan, et al., 1964) were included, describing family finances, and the home.

Mathis Environmental Participation Index (EPI). This is a checklist of items designed and used by Mathis (1966) as a measure of richness of environmental experience. The items are divided into two sets in which the respondent is asked to check: (1) which items of a set of 19 are available in his home; (2) in which of 48 listed activities has the respondent engaged.

Mathis is concerned with the relationship of social class level and intelligence test performance, but eschews the traditional approach to the measurement of social class. He contends that the relationship of social class and intellectual level should be explained by the degree to which an individual has been exposed to and participated in the mass culture. Furthermore, he regards this index as a sensitive measure of such differences within a social class.

In our study this variable is used in addition to the more traditional measure of social class. Thus it is included in the major analyses at Time 1. It will also be a potentially interesting measure of change at Times 2 and 3.

Delinquent Behaviors (Part E)

This 26-item checklist is designed to ascertain the type and frequency of delinquent behavior engaged in by the respondent. The checklist is administered separately. The respondent, upon completion of the checklist, places it in an envelope which he can seal. It is stressed that the information he provides in this part of the questionnaire is confidential.

This measure was adapted from one developed by Gold (1966), with items taken from a longer list developed for his study of undetected delinquency. In a validity study of this measure Gold (1966) found that informants and respondents demonstrated an agreement level of 72 percent. Percent "truth-telling" did not vary significantly by social class or race.

Summary

The major measurement effort in our study involves data collected from boys at three points in time. To a large degree, these three data collections (Times 1, 2, and 3) will involve identical questions, repeated in order to measure change over time. Additional data concerning school characteristics are to be obtained from school personnel in participating schools. The dimensions to be measured in the study were introduced first in Chapter 2 (Figure 2-2) and have been specified in much greater detail in this chapter (see especially Table 4-1).

Whenever possible, the components of the measurement battery have been adapted from instruments of known reliability and/or validity. The major portion of this chapter has been devoted to reporting such information for the interview, tests, and questionnaires administered at Time 1.

Chapter 5

ANALYSIS STRATEGIES AND PROCEDURES

Because of the broad scope of the project, and especially because of its longitudinal design, the possibilities for data analysis are vast. It therefore is essential that we develop systems and procedures of analysis that give high priority to data integration and that we provide strategies for examining many substantive questions simultaneously. In short, without letting ourselves be overwhelmed by the magnitude of our data, we should take full advantage of their richness.

This chapter and the final one, Chapter 6, present complementary aspects of our approach to data analysis. We have reserved for Chapter 6 a treatment of major substantive themes, organized according to the conceptual framework introduced in Chapter 2. But in order to treat any substantive issue, we require a set of strategies and procedures for handling the data. The discussion and elaboration of such strategies and procedures is the purpose of this chapter.

Sequence of Analysis Strategies

Three broad strategies of analysis, carried out sequentially, will be used extensively: index construction and data reduction, cross-sectional analysis, and longitudinal analysis. Of course, we will use other types of analysis that are not a part of this specific sequence. One such form of analysis, the use of descriptive statistics, is important enough to warrant special mention.

Descriptive Statistics. Often the most important survey findings are based on the simplest forms of data analysis. In political surveys this may be the proportion of voters favoring a particular candidate. Such information is of great importance in its own right, even if it is not related to other voter characteristics, such as education, geographical region, and age. The same observation holds true in our study. Although our primary purpose is to discover relationships among sets of variables, we will also examine such descriptive data as means, standard deviations, and response distributions for many of the variables studied. We will have, for example, an early interest in tabulating average levels and ranges of such measures as mental health symptoms, values, occupational aspirations, attitudes toward school, and plans to drop out. And since such tabulations tend to be the simplest to carry out and to communicate, they will be among the earliest reported results of the data analysis.

Strategy 1: Index Construction and Data Reduction. The first broad analysis strategy may best be described as a process of data reduction. Considering the number of items of information per respondent, it would be more confusing than helpful to analyze and report these bits of data one at a time. From the Time 1 questionnaire alone, over five hundred responses are available by which to characterize each respondent's background, attitudes, feelings, and mental health. The first step in the analysis will be to condense these item responses by constructing indexes. (In general, indexes will be calculated by finding the arithmetic mean of the scores attained by a respondent on a number of items which are designed to measure a common characteristic.)

An additional level of data reduction is likely to be employed. We have just stressed the futility of analyzing the data at the individual item level, and thus the need for index scores. However, efficiency may require further reduction of the data in order to describe many aspects of our respondent's attitudes, values, and attributes. For example, some 18 separate indexes will result from the items measuring affective states. For many purposes, this is yet an unmanageable number of dimensions. Thus we will attempt to reduce the data still further by applying the same general strategy used in index construction. In this case, we will look for clusters of highly intercorrelated indexes within the same general category (such as, clusters of mental health symptoms, clusters of values, clusters of attitudes toward school). Then cluster scores will be calculated based on the means of the interrelated indexes; in effect, each such score will be an index of indexes.

Strategy 2: Cross-Sectional Analysis. The second of the broad analysis strategies consists of a wide variety of statistical techniques used to discover important relationships among variables[1] measured at a single point in time. To this end, we will employ many correlational and multiple classification procedures. At one level, we will be interested in the extent of relationship which exists between pairs of our variables. For example, we may want to look at the relationship between reported past success or failure in school and intention to drop out. An extension of this technique will permit investigation of similar relationships among sets of more than two variables at one time. Thus, the relationship may be examined between past success in school, socioeconomic status of the home, and intention to drop out.

---

[1] As used here, the term variable can refer to an item, index, cluster, or test score.

In a slightly different sense, we will concern ourselves with (statistical) prediction of criterion measures within this broad strategy. For example, what combination of the data collected from our respondents at the first point in time will allow us to predict their intention to drop out of school? Or what other combination of data will lead to efficient prediction of those who have high self-esteem? Or what combination will permit prediction of those who report past and present participation in delinquent acts? Such questions will be treated using this second analysis strategy.

Strategy 3: Longitudinal Analysis. The third broad strategy analyses to be employed consists of techniques used to discover the *causal* directions underlying the relationships found at the second stage. At this stage the importance of the longitudinal nature of the design becomes critical. The other two analysis strategies do not require longitudinal data, but to examine direction of causality necessitates that data be collected at more than one point in time.

We noted above that we could predict (statistically) intention to drop out through the use of cross-sectional techniques discussed within the second analysis strategy. Interesting though this possibility may seem, at best it is of limited value unless the relationship between a boy's intention to drop out and his actual dropping out (or staying in) is known. This latter relationship can be examined only by following the boys through their remaining high school years and observing those who actually do not complete school, then relating this measure to the earlier reported intention to drop out. Previous attempts to investigate such relationships have asked boys who have already completed or failed to complete school to report on their earlier attitudes, intentions, and plans. There are several methodological problems inherent in such retrospective efforts, not the least of which is the unreliability of such reporting.

Many variables of central importance, such as, affective states, self-concept, values, and attitudes, are likely to be measured at all three points in the major data collections. Obviously this will permit measurement of changes in these characteristic traits between Times 1 and 2 as well as between Times 2 and 3. Subsequently, it will oftentimes be of interest to know what proportion of total change (Times 1 to 3) is represented by the changes over the two 18-month intervals. This would be particularly important when examining change in a trait which is believed to be developing in some systematic fashion during the time the respondents are being observed (such as occupational aspirations and occupational self-identity).

Measured changes in a trait from one time to another could also serve as criterion variables for some purposes. One might want to show what changes in school motivation, or in rebellious behaviors in school can be predicted from data available at Time 1. Information of this kind could certainly be used by guidance counselors in working with boys of this age.

In summary, three broad analysis strategies will be employed. First, techniques of index and cluster building will be used to drastically reduce the number of potential relationships to be analyzed. Second, attempts will be made to determine what cross-sectional relationships exist among the indexes, clusters, and other variables. Finally, longitudinal analyses will be directed to the task of discovering the causes of these and other relationships. In addition, some descriptive analyses will be employed to summarize the distribution of responses to timely questions.

Thus far we have treated analysis strategies on a fairly general level, and this may be adequate for many readers. The remainder of the chapter is devoted to a somewhat more technical explanation and illustration of the three strategies as applied to our data.

Sets of Analysis Variables

Our research design, as discussed in Chapter 3, involves six major sources of data for analysis: data collected from our subjects at Times 1, 2, and 3; and the data concerning schools collected from principals, counselors, and teachers.

As has been noted, many measures used at Time 1 will be repeated at Times 2 and 3; thus, from these three original sets of data we can derive three more sets—*changes* from Times 1 to 2, 1 to 3, and 2 to 3. These data sets, in addition to the six originally mentioned, are shown in Table 5-1. (Attention is called to the abbreviations used to represent the source of the data, and where appropriate, the time of the data collection; this system of abbreviations is used consistently throughout the chapter.)

TABLE 5-1

SETS OF ANALYSIS VARIABLES EXPANDED TO INCLUDE CHANGE SCORES

*Respondents - Time 1 . . . . (R.1)

*Respondents - Time 2 . . . . (R.2)

*Respondents - Time 3 . . . . (R.3)

Respondents - Change, Time 1-2 . . . . (R.1-2)

Respondents - Change, Time 1-3 . . . . (R.1-3)

Respondents - Change, Time 2-3 . . . . (R.2-3)

*Principals

*Counselors

*Teachers[a]

---

[*] Starred entries correspond fairly directly to the data collected as outlined in Chapter 3. All other entries are derived from these original data.

[a] Although in each school a number of teachers will provide questionnaire data, all analyses (unless otherwise noted) will be based on mean teacher ratings within each school.

As we stated in Chapter 3, an important feature of our sample is that it is clustered by school. This permits characterizing a school in terms of a mean score based on all respondents in that school. Shortly, some analyses will be illustrated employing these school mean data. Our interest in school mean scores includes change measures as well as the original data from Times 1, 2, and 3; thus, we add six more sets of data for analysis, as shown in Table 5-2.

Variable Sets Defined. For much of the following discussion, the term "variable set" or "set of analysis variables" is used to refer to any one of the sets of variables shown in Table 5-2. Used in this sense, the term refers to (a) a set of "original" data collected from a single category of respondents (such as boys) at a single major data collection (such as Time 1) or (b) a set of data derived from a given arrangement or combination of the "original" sets defined above. Although our choice of this way of categorizing our data is arbitrary, it proves to be a useful approach for developing and discussing analysis strategies.

Analysis Strategies Applied to Variable Sets

Now let us consider how the three major analysis strategies discussed earlier can be applied to the 15 sets of analysis variables shown in Table 5-2.

BEST COPY AVAILABLE

TABLE 5-2

SETS OF ANALYSIS VARIABLES
EXPANDED TO INCLUDE CHANGE SCORES AND SCHOOL MEANS

1.	*Respondents	- Time 1.	Individual Level	(R. 1. Ind)
2.	Respondents	- Time 1.	School Mean Level	(R. 1. Sch)
3.	*Respondents	- Time 2.	Individual Level	(R. 2. Ind)
4.	Respondents	- Time 2.	School Mean Level	(R. 2. Sch)
5.	*Respondents	- Time 3.	Individual Level	(R. 3. Ind)
6.	Respondents	- Time 3.	School Mean Level	(R. 3. Sch)
7.	Respondents	- Change, Time 1-2.	Individual Level	(R. 1-2. Ind)
8.	Respondents	- Change, Time 1-2.	School Mean Level	(R. 1-2. Sch)
9.	Respondents	- Change, Time 1-3.	Individual Level	(R. 1-3. Ind)
10.	Respondents	- Change, Time 1-3.	School Mean Level	(R. 1-3. Sch)
11.	Respondents	- Change, Time 2-3.	Individual Level	(R. 2-3. Ind)
12.	Respondents	- Change, Time 2-3.	School Mean Level	(R. 2-3. Sch)
13.	*Principals	(all data)		
14.	*Counselors	(all data)		
15.	*Teachers	(all data)		

---

*Starred entries correspond directly to the data collected as outlined in Chapter 3. All other entries are derived from these original data.

Index Construction and Data Reduction. There are two stages involved in arriving at index scores: the first is a developmental stage requiring the selection of items to be included in the index (this determines the formula or "recipe" for the index); the second stage is the actual calculation of the index. The two stages need not be carried out at the same time, and they need not involve the same data. In our study the development of index formulas takes place at several points, but generally any given index will undergo such development only once; if it is used at several points in time it will be calculated each time according to the original selection of items. For example, the final selection of items to be included in the indexes of affective states was made on the basis of intercorrelational analyses of pilot study data; these index scores will be calculated for the data collected at Times 1, 2, and 3, but in each case the items used will be those specified in the original index formula.

Given this distinction between the development of index formulas, and the actual calculation of the indexes, we can state briefly our plans for the latter. It is certain that indexes will be calculated within each of the first six sets of analysis variables shown in Table 5-1 and it is very likely that some indexes will be calculated within the last three sets also. Moreover, once calculated, *such index scores are considered a part of the set of analysis variables from which they were derived.* Thus we consider indexes of affective states at Time 1 to be a part of the first analysis set listed in Table 5-1.

The observations in the preceding paragraphs hold equally well for the development and calculation of cluster scores based on several highly correlated indexes. Once the indexes are selected to form a cluster, the same ingredients will be used whenever the cluster score is calculated. For example, if it appears at Time 1 that a number of mental health symptoms such as resentment, anxiety and tension, irritability, and guilt are highly intercorrelated, a cluster score will be computed which combines these indexes; this cluster score will be computed again when the items are readministered at Times 2 and 3.

This procedure of calculating the same index and cluster scores at several points in time makes it possible to compute changes in index and cluster scores; such changes form a part of variable sets 7 through 12 in Table 5-2. (Thus we will have index and cluster change scores; but the procedure will be to calculate the index and cluster scores first, and then compute changes, rather than vice versa. For this reason we do not anticipate much development of indexes and clusters based directly on the change scores.)

Now let us turn to the analysis plans that bear upon the selection of items to form indexes, and the selection of indexes to form clusters. Such selection is done throughout the study, but most of it is concentrated in the early stages.

The most extensive index construction effort involves the individual level data available at Time 1. As noted earlier, many indexes were developed on the basis of intercorrelational analyses of pilot study data; but other indexes will be developed out of analyses of the Time 1 data. Moreover, clusters of indexes will be determined largely through the use of these data. Measures of mental health symptoms, values, attitudes toward school, and the like, will undergo extensive index and cluster development at Time 1.

Some additional indexes may be developed out of the school mean data available at Time 1. Certain of the boys' ratings of school characteristics, teacher attitudes and practices, and the "peer climate" in the school, may best be interrelated at the school mean level. If in fact some school characteristics tend to be fairly highly correlated, the relationships should show up more clearly using school mean data, assuming that school ratings based on several students' perceptions are generally more accurate than individual perceptions. (This form of index construction involves combining several school mean scores into a single index score; it is important to distinguish this procedure from the calculation to school means based on individual index scores.)

At Time 2 some further index construction will be required at both the individual and school mean levels. In particular, new items dealing with school and job environments will require intercorrelational analyses to develop formulas for new indexes and perhaps new clusters.

Because few new items are planned for Time 3, there should be little index and cluster development required.

The data collected from principals, counselors, and teachers provide one more source of items for index formation, and perhaps also cluster formation. Within these data sets, it is especially likely that indexes will overlap; that is, some key items will be used in more than one index. For example: the principal's report of average class size in his school could appear in indexes of school crowding, educational policies, and community commitment to schooling.

To summarize, indexes of items and clusters of indexes will be developed early in the course of the data analysis and will be computed throughout the study as additional waves of data become available. The sets of analysis variables contributing to this process include individual and school mean responses obtained at Times 1, 2, and 3, and also the data obtained from school officials. The index and cluster scores resulting from this process are treated throughout this discussion as part of the set of analysis variables from which they were derived.

Cross-Sectional Analysis. Thus far it has been possible to deal singly with our sets of analysis variables. But to take full advantage of our research design, combinations of these analysis sets must be made. Although combinations of three or more sets might be considered in a given analysis, we will in fact seldom use more than two sets at a time. We will consider shortly a number of paired combinations of sets that will be used in cross-sectional analyses; and will examine other pairs that will serve in longitudinal analyses. Table 5-3 shows the 120 possible

TABLE 5-3

SETS OF ANALYSIS VARIABLES USED IN STRATEGY 2:
CROSS-SECTIONAL RELATIONSHIPS (C)

	1 R.1.Ind.	2 R.1.Sch.	3 R.2.Ind.	4 R.2.Sch.	5 R.3.Ind.	6 R.3.Sch.	7 R.1-2.Ind.	8 R.1-2.Sch.	9 R.1-3.Ind.	10 R.1-3.Sch.	11 R.2-3.Ind.	12 R.2-3.Sch.	13 Principals	14 Counselors	15 Teachers
1. *Respondents - Time 1. Individual Level (R.1.Ind)	C														
2. Respondents - Time 1. School Mean Level (R.1.Sch)	C	C													
3. *Respondents - Time 2. Indiv. (R.2.Ind)			C												
4. Respondents - Time 2. Sch. Mean (R.2.Sch)			C	C											
5. *Respondents - Time 3. Indiv. (R.3.Ind)					C										
6. Respondents - Time 3. Sch. Mean (R.3.Sch)					C	C									
7. Respondents - Change, Time 1-2. Indiv. (R.1-2.Ind)															
8. Respondents - Change, Time 1-2. Sch. Mean (R.1-2.Sch)															
9. Respondents - Change, Time 1-3. Indiv. (R.1-3.Ind)															
10. Respondents - Change, Time 1-3. Sch. Mean (R.1-3.Sch)															
11. Respondents - Change, Time 2-3. Indiv. (R.2-3.Ind)															
12. Respondents - Change, Time 2-3. Sch. Mean (R.2-3.Sch)															
13. *Principals (all data)	C	C	C	C	C	C							C		
14. *Counselors (all data)	C	C	C	C	C	C							C	C	
15. *Teachers (all data)	C	C	C	C	C	C							C	C	C

*Starred entries correspond directly to the data collected as outlined in Chapter 3. All other entries are derived from these original data.

combinations of analysis sets taken singly or in pairs with rows and columns representing the analysis sets introduced in Table 5-2. Each cell along the diagonal of the matrix represents a set taken by itself. All other cells represent pairs of analysis sets.

The Time 1 data for individuals are represented in column 1 and row 2 of Table 5-3. When these data are available (and the indexes and clusters have been derived) important cross-sectional analyses will be carried out as represented by the C in cell 1.1 (row 1, column 1). Broad links will be found between motives, attitudes, plans, and behaviors. Correlations will be examined, such as those between family background and mental health, between achievement motivation and grades in school and between abilities and expectation of dropping out.

The Time 1 data at the school mean level (Table 5-3, cell 2.2) will also provide important analysis opportunities. Here correlations may be examined between school policies and practices (as perceived by the boys), peer climates, attitudes toward school and dropping out, and other such dimensions.

Somewhat more complex are analyses combining individual and school mean levels of data (cell 2.1). This combination of analysis variables makes possible the relating of individual criterion scores (mental health, plans, behaviors) to school mean perceptions of teachers, school policies, and the like. It will also be possible to predict individual criterion scores from school mean perceptions while partialing out each individual's own perception, in order to avoid so-called phenomenological relationships (see Bachman, Smith, and Slesinger, 1966, for discussion and illustration of this technique).

These three types of cross-sectional analysis at Time 1 will be of great importance in guiding later analyses, particularly longitudinal analyses. They will point to those areas of relationships which are at once most promising and most intriguing—promising because the relationships are strong, and intriguing because a longitudinal analysis is required to establish the *direction* of causation.

(At Times 2 and 3 some of the same types of cross-sectional analysis may be repeated, particularly with new measures not used at Time 1. But the cross-sectional analyses carried out on these sets—cells 3.3, 4.4, and 4.3 at Time 2, and 5.5, 6.6, and 6.5 at Time 3—will be somewhat less significant than the several other types of analysis that will be possible at that point in the study.)

One type of analysis that will become very important at about the same time as the Time 2 data are available involves the information obtained from principals, counselors, and teachers. (Because some data will be available from principals before Time 2, a portion of the following work will be carried out earlier.) Relationships will be sought in the many responses from school officials, both within a single analysis set (cells 13.13, 14.14, and 15.15) and across analysis sets (cells 14.13, 15.13, and 15.14). Relationships across analysis sets include checks of consistency and agreement among several sources of data; for example, are teachers' and principals' perceptions of the counseling program consistent with those of the counselors?

In many ways the most interesting cross-sectional analyses will link data from school officials with data provided by the boys, at both the individual and school mean levels (analysis sets 13 through 15, related to sets 1 through 6). Once again it will be possible to check consistency and agreement in perceptions; for example, do the boys' perceptions of school agree with the views of teachers and principals? More important, we will be able to relate relatively inconspicuous characteristics of the school (teacher salaries, per-pupil expenditures, and a host of school administrative practices) to the boys' criterion scores.

Interesting and important as the above cross-sectional analyses are, they represent only a limited picture because they lack consideration of the dimension of time. It is to this dimension, as reflected in the longitudinal analyses, that we turn our attention next.

Longitudinal Analysis. Whereas Table 5-3 shows the sets of variables to be used in cross-sectional analyses, Table 5-4 displays those sets to be involved in longitudinal analyses. A brief examination of Table 5-4 will show that there are many combinations of data available for this purpose; fortunately, they can be classified in a much smaller number of categories. The following paragraphs present such a classification in a sequence used for purposes of clarity and not necessarily representing the order in which analyses will occur.

1. One fairly simple kind of longitudinal analysis will be to relate individual level measures across points in time (Table 5-4, cells 3.1, 5.1, and 5.3). To cite one example: expectations of dropping out measured at Time 1 will certainly be correlated with data on actual dropping out obtained at Times 2 and 3; the strength of this correlation will indicate how accurately such behavior can be predicted from attitudes at an earlier point in time. Another example is the prediction of actual occupational status at Time 3 based on the occupational attitude and aspiration data collected at Times 1 and 2. (This form of analysis, predicting from one

TABLE 5-4

SETS OF ANALYSIS VARIABLES USED IN STRATEGY 3:
LONGITUDINAL ANALYSES (L)

	1 R.1.Ind.	2 R.1.Sch.	3 R.2.Ind.	4 R.2.Sch.	5 R.3.Ind.	6 R.3.Sch.	7 R.1-2.Ind.	8 R.1-2.Sch.	9 R.1-3.Ind.	10 R.1-3.Sch.	11 R.2-3.Ind.	12 R.2-3.Sch.	13 Principals	14 Counselors	15 Teachers
1. *Respondents - Time 1. Individual Level (R.1.Ind)															
2. Respondents - Time 1. School Mean Level (R.1.Sch)															
3. *Respondents - Time 2. Indiv. (R.2.Ind)	L	L													
4. Respondents - Time 2. Sch. Mean (R.2.Sch)		L													
5. *Respondents - Time 3. Indiv. (R.3.Ind)	L	L	L	L											
6. Respondents - Time 3. Sch. Mean (R.3.Sch)		L		L											
7. Respondents - Change, Time 1-2. Indiv. (R.1-2.Ind)	L	L	L	L	L	L	L								
8. Respondents - Change, Time 1-2. Sch. Mean (R.1-2.Sch)		L		L		L	L	L							
9. Respondents - Change, Time 1-3. Indiv. (R.1-3.Ind)	L	L	L	L	L	L	L	L	L						
10. Respondents - Change, Time 1-3. Sch. Mean (R.1-3.Sch)		L		L		L		L	L	L					
11. Respondents - Change, Time 2-3. Indiv. (R.2-3.Ind)	L	L	L	L	L	L	L	L	L	L	L				
12. Respondents - Change, Time 2-3. Sch. Mean (R.2-3.Sch)		L		L		L		L		L	L	L			
13. *Principals (all data)							L	L	L	L	L	L			
14. *Counselors (all data)							L	L	L	L	L	L			
15. *Teachers (all data)							L	L	L	L	L	L			

*Starred entries correspond directly to the data collected as outlined in Chapter 3.
All other entries are derived from these original data.

107

variable to another variable at a later point in time, is a form of analysis providing the basis of much of the longitudinal information provided by the Project TALENT studies; see Flanagan, et al., 1962, 1965, and 1966.)

2. In like manner, school means along criterion dimensions such as level of occupational attainment, drop-out rate, and delinquent behavior at Time 3 can be predicted from Time 1 and 2 school mean data on characteristics of the school environment, including teacher behaviors, peer group climate, and other factors as perceived by the students. (See cells 4.2, 6.2, and 6.4 of Table 5-4.)

3. A closely related strategy will predict from school mean measures of school environment to individual level criterion dimensions which are measured later in time (cells 3.2, 5.2, and 5.4). This will permit contrasting the strength of school effects with other effects (such as home environment, etc.) as outlined in paragraph 1 above.

Thus far we have concentrated on longitudinal analysis procedures that relate a measure at one point in time to another measure (or a repeat of the same measure) at a later point in time. Now we focus attention on the core of the longitudinal analysis: those sets of analysis variables reflecting changes from Times 1 to 2, 1 to 3, 2 to 3 (variable sets 7 through 12). The first set of procedures (paragraphs 4, 5, and 6) will relate change measures to "static" measures; the second set (paragraphs 7, 8, and 9) will relate change measures to other change measures; and the last set (paragraph 10) will relate change measures to measures collected from school officials.

4. The correlation of individual measures (variable sets 1, 3, and 5) with individual change measures (sets 7, 9, and 11) is an extremely useful form of longitudinal analysis. For example, we will predict from Time 1 measures of home environment to the unfolding of occupational plans and aspirations (as reflected in all three sets of change variables—7, 9, and 11). Similarly, we will relate data about actual dropping out, collected at Time 2 or Time 3, to changes in mental health occurring both prior and subsequent to the time of leaving school. While most of the analyses within this general category will involve prediction from one ("static") measurement to a subsequent change, occasionally it will be of interest to reverse the procedure; for instance, we may use measures of change in occupational plans and aspirations to predict to occupational attainment at Time 3.

5. At the level of school mean scores, many analyses can be carried out parallel to those described above (in this case

relating variable sets 2, 4, and 6 to sets 8, 10, and 12). For example, mean perceptions of school characteristics may predict to changes in occupational plans and aspirations of "the average boy" in that school—changes that take place during the period that the boys are exposed to the high school environment.

6. A related strategy will predict from school mean measures (variable sets 2, 4, and 6) to changes in individual level criterion dimensions (sets 7, 9, and 11). Thus changes in individual occupational plans and aspirations could be examined as a function of school characteristics (assessed by school mean measures), and the strength of prediction from school characteristics could be compared to the prediction from home environment (see paragraph 4 above).

The reader may have noted a pattern in paragraphs 1, 2, and 3, that was repeated in paragraphs 4, 5, and 6: first a pairing of individual level data with (other) individual level data, then a pairing of school mean data with school mean data, and finally a pairing of school mean data with individual level data. (This same pattern appeared earlier in the discussion of cross-section analyses and is repeated again below.)

7. One of the most complex forms of analysis available to us will relate one change measure to another. The first such instance relates one individual level change measure with another (variable sets 7, 9, and 11 interrelated). For example, we could examine changes in self-concept as they relate to changes in occupational aspirations, and by comparing several time periods we might discover whether one kind of change tends to precede the other.

8. Similarly it will be possible to interrelate school mean measures of change (variable sets 8, 10, and 12). Thus we might find that changes in school mean measures of peer climate predict to later school mean changes in attitudes toward school or self-reported delinquent behavior.

9. A relationship between peer climate and delinquency might also be demonstrated with the change in criterion dimensions measured at the individual level. Such an analysis would be particularly useful when a Time 1-2 change in a school mean measure related to a (later) Time 2-3 change in an individual criterion (cell 11.8). Similar analyses might compare individual level changes with school mean changes occurring during the same period (cells 8.7, 10.9, and 12.11).

10. Our discussion of longitudinal analysis procedures thus far has been restricted to data obtained from the boys. Now let us consider the additional possibilities provided by the data

collected from school officials (principals, counselors, and teachers). In discussing cross-sectional analyses earlier in this chapter, we noted that one of the most interesting efforts will be to link school characteristics (as reported by school officials) to the boys' criterion scores, both at the individual and school mean levels. Certainly this is all the more true when the criterion scores are change measures such as shifts in mental health symptoms, in values, and in occupational aspirations (thus relating variable sets 13, 14, and 15 to sets 7 through 12).

Summary of Major Analysis Strategies. Table 5-5 displays in a single matrix the applications of all three major analysis strategies. There are many possibilities available, but not all are equally important. We have tried to distinguish the analysis areas most important to us at present. But the decision about where to place the heaviest analysis investment must always depend on our cumulating experience. The analysis design explicitly provides for this kind of feedback. Such provisions include the process of index and cluster construction, and the use of early cross-sectional analysis to guide subsequent longitudinal analysis. Because it is not possible to know in advance all the possible paths of analysis that will be developed, we have concentrated on general strategies and procedures. One effect of this approach has been to outline more possible combinations of analysis sets than it is likely we will use.

It is of some interest to note that only 15 of the 120 cells in the matrix are empty, that is, only 15 combinations of analysis sets are not designated for possible use in index construction, cross-sectional analysis, or longitudinal analysis. These cells represent analysis possibilities that are somewhat inconsistent with our conceptual framework; each cell involves a prediction from individual level data to school mean data at a *later* point or interval in time. Our conceptual model views the school environment as a cause of changes in boys rather than viewing school environment characteristics as the result of earlier measures of individuals. While we have not designated these inconsistent cells as a part of our analysis for theoretical purposes, there occasionally may be methodological advantages in using them. In general, we would expect to demonstrate that these "theoretically backward" relationships are weaker and less clear than their "theoretically appropriate" counterparts.

One other point bears emphasis in this summary. The several analysis procedures outlined above will not be used to best advantage if treated in isolation. The most effective use of the data will be to combine several analytical treatments of the same

TABLE 5-5

SETS OF ANALYSIS VARIABLES USED IN STRATEGIES 1, 2, & 3

Summary of Three Strategies {Index Construction (I) / Cross Sectional Analysis (C) / Longitudinal Analysis (L)}

	1 R.1.Ind.	2 R.1.Sch.	3 R.2.Ind.	4 R.2.Sch.	5 R.3.Ind.	6 R.3.Sch.	7 R.1-2.Ind.	8 R.1-2.Sch.	9 R.1-3.Ind.	10 R.1-3.Sch.	11 R.2-3.Ind.	12 R.2-3.Sch.	13 Principals	14 Counselors	15 Teachers
1. *Respondents - Time 1. Individual Level (R.1.Ind)	I C														
2. Respondents - Time 1. School Mean Level (R.1.Sch)	C	I C													
3. *Respondents - Time 2. Indiv. (R.2.Ind)	L	L	I C												
4. Respondents - Time 2. Sch. Mean (R.2.Sch)		L	C	I C											
5. *Respondents - Time 3. Indiv. (R.3.Ind)	L	L	L	L	I C										
6. Respondents - Time 3. Sch. Mean (R.3.Sch)		L		L	C	I C									
7. Respondents - Change, Time 1-2. Indiv. (R.1-2.Ind)	L	L	L	L	L	L	L								
8. Respondents - Change, Time 1-2. Sch. Mean (R.1-2.Sch)		L		L		L	L	L							
9. Respondents - Change, Time 1-3. Indiv. (R.1-3.Ind)	L	L	L	L	L	L	L	L	L						
10. Respondents - Change, Time 1-3. Sch. Mean (R.1-3.Sch)		L		L		L		L	L	L					
11. Respondents - Change, Time 2-3. Indiv. (R.2-3.Ind)	L	L	L	L	L	L	L	L	L	L	L				
12. Respondents - Change, Time 2-3. Sch. Mean (R.2-3.Sch)		L		L		L		L		L	L	L			
13. *Principals (all data)	C	C	C	C	C	C	L	L	L	L	L	L	I C		
14. *Counselors (all data)	C	C	C	C	C	C	L	L	L	L	L	L	C	I C	
15. *Teachers (all data)	C	C	C	C	C	C	L	L	L	L	L	L	C	C	I C

*Starred entries correspond directly to the data collected as outlined in Chapter 3. All other entries are derived from these original data.

basic relationship in order to tease out the more subtle underlying causal directions. One such use of analyses in combination is cross-lagged panel correlation; this is the first of several additional types of analyses discussed in the following section.

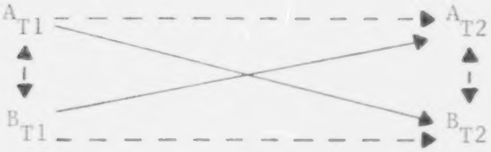
Additional Types of Analyses

Of the many additional forms of analyses available, several are certain to be used and are discussed below.

Cross-Lagged Panel Correlation. We noted earlier the usefulness of predicting from variable A measured at one point in time to variable B measured at a later point in time (see paragraphs 1, 2, and 3 under "Longitudinal Analysis"). This technique becomes especially useful when both A and B are measured at two points in time, so that both "causal directions" may be tried out. Figure 5-1 illustrates this technique, which Campbell and Stanley (1963) have termed "cross-lagged panel correlation."

FIGURE 5-1

CROSS-LAGGED PANEL CORRELATION OF VARIABLES A AND B AT TIMES 1 AND 2

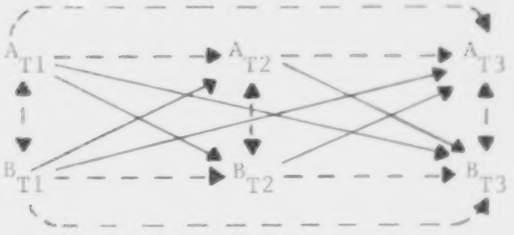


In essence, this technique permits us to infer that A causes B more than B causes A to the extent that the A_{T1}--B_{T2} correlation is greater than the B_{T1}--A_{T2} correlation. The additional relationships among the variables indicated by dotted arrows in Figure 5-1 will add to our information about the association between A and B over time.

As shown in Figure 5-2, the technique becomes more complicated when applied to panel measurements at three points in time. There are several advantages to extending the technique over two 18-month intervals. First, it permits us to determine whether the cross-lagged association between two variables is much stronger during the one interval than the other—perhaps during a period of relatively rapid adolescent development. Second, it permits contrasting both of the 18-month lags with the total 3-year lag. Such contrasts may help indicate the duration of the time lag between cause and effect. (Some effects may have maximum impact after a long period of time, and thus may show up more clearly in the 3-year span.)

FIGURE 5-2

CROSS-LAGGED PANEL CORRELATION OF VARIABLES A AND B AT TIMES 1, 2, AND 3



The cross-lagged panel correlation technique should be useful for several purposes, particularly in examining closely interrelated characteristics of individuals, such as values and mental health symptoms. This analysis technique may help to indicate whether some symptoms tend to follow others with some detectable time lag. (For some such analyses, we may want to use finer units than the clusters described earlier; indeed, we may find that some indexes that were combined into clusters for certain purposes must be separated in order to discover a degree of causal sequence.)

Analyses Using Uniformity Measures. Our sample contains a number of boys in each school, permitting a whole range of analyses not otherwise possible. Earlier in this chapter we discussed the use of school mean data in our major analysis strategies. Now we turn to another use of the data clustered by school: analyses based on measures of variability within each cluster. In most cases the statistic of interest in these analyses will be the variance estimate ($\hat{S}^2$), or the estimated standard deviation ($\hat{S}$), calculated for all respondents within each school.[2] Along any dimension of interest, the greater the uniformity among boys within a school, the smaller will be the variance estimate.

One use of uniformity measures is to make inferences about the accuracy of respondents' perceptions of their school; this can be applied to perceptions of teachers as well as perceptions of boys. It is obvious that if respondents do not agree among themselves in their perception of some "external reality" such as the school, their perceptions cannot be accurate. The reverse, however, is not true; a high level of agreement is a necessary condition for a judgment on accuracy, but it does not guarantee it. Thus we will have to be cautious in using this technique to assess our measures.

---

[2] It is important to note the distinction between the sample variance (S^2) and the population variance *estimate* ($\hat{S}^2$), since the variance estimate may be used to compare samples that vary in size (as the samples of boys vary in size from school to school). The distinction may be expressed as follows: $\hat{S}^2 = \frac{N}{N-1}(S^2)$ (Hays, 1963, p. 207).

A particularly useful application of uniformity measures is one that treats degree of homogeneity within a school as a variable of interest in its own right. Obvious candidates here include: racial and socioeconomic variability within schools, the range of academic interests and vocational aspirations among students in a school, and variations in teachers' attitudes and educational values.

For some dimensions, of course, it will be useful to have school officials report degree of uniformity; for example, many principals can provide much better information on racial composition in their schools than could be estimated from a sample of twenty-five or thirty boys. Along other dimensions, however, the only source of information will be the boys; and in these cases the variance estimate will be a very useful measure of uniformity within schools. (See Tannenbaum and Bachman, 1966, for application of this type of analysis.)

Measures of Discrepancy. We noted in Chapter 3 that data on the same topic collected from several sources may reveal some very interesting inconsistencies in perception. If students in some schools see school practices very differently than do their teachers, this discrepancy in perception may be an important variable for consideration in analysis. In other words, we expect to do more than look for differences; along some dimensions discrepancy scores will be calculated for all schools, and treated as analysis variables to be related to other factors in the school situation.

Another kind of discrepancy score is that which will be calculated for each individual in the sample. One of the best known illustrations of this type of score—and one that will be studied in our project—is the measurement of academic over- and underachievement, in which actual grades are related to predictions based on aptitude tests.[3] Other discrepancy measurements will involve a comparison of occupational aspirations with those predicted by a student's measured level of ability. The student who plans to become a surgeon, but who has below average intelligence and school grades is either uninformed or unrealistic—traits also to be suspected in the outstanding student who plans a career of working on an assembly line. Other individual discrepancies to be studied will include self-concept of ability versus actual measure of ability, and values about behavior versus self-report of actual behavior.

---

[3] Such predictions, incidentally, are based on a regression equation taking account of the strength of correlation between the predictive instrument and the criterion. Thus, for example, if an individual had a score two standard deviations above the mean of a test that correlated .5 with the criterion, his predicted criterion score would be one standard deviation above the mean $[2\sigma(.5) = 1\sigma]$.

Still another form of discrepancy score to be examined includes the individual's response versus the mean response of all students in his school. The individual who perceives things differently from most boys in his school may, for that reason, have difficulty adjusting to the school environment. Another use of this kind of discrepancy score will be to detect individuals who are "deviants" along dimensions other than perceptions. The boy who differs from his classmates in terms of socioeconomic status, parents' education, and other aspects of home environment may find it difficult to reconcile conflicting pressures from home and school. Also of interest will be the boy who is at odds with the prevailing norms, values, and attitudes of his peers. In many of these areas of theoretical and practical importance measures of discrepancy will provide a valuable analytic tool.

Teacher Responses as Criterion Data. Throughout, we have treated the information to be obtained from teachers as a source of data concerning school environments. Although this is the primary function of such information in our research design, an interesting by-product here is the possibility of studying as criterion data in their own right teacher responses, such as involvement in and satisfaction with their school and the use of innovative teaching practices.

Given this way of looking at the data from teachers, it will be possible to carry out some organizational studies of schools in ways that closely parallel other organizational studies. In this case, most criterion data will come from employees who happen to be teachers. To the extent that findings from such analyses are basically similar to those in other organizations, we will have taken another step toward general theories of behavior in organizations; we will have further evidence that findings from organizational research in general have practical value for the organization and administration of schools.

Summary

Three broad strategies of analysis, in addition to descriptive statistics, will be used most extensively in our treatment of data: index construction and data reduction, cross-sectional analysis, and longitudinal analysis. Our application of these strategies involves a number of "variable sets" based on: data obtained at Times 1, 2, and 3; change scores between Times 1 and 2, 1 and 3, and 2 and 3; school mean scores for all of the above variable sets; and finally the data obtained from principals, counselors, and teachers.

Additional more specialized forms of analysis that we are likely to use include cross-lagged panel correlation, analyses using uniformity measures, measures of discrepancy, and the treatment of teacher responses as criterion data.

With this overview of analysis strategies complete, we turn in our final chapter to consider the application of these analysis strategies to our major substantive interests.

Chapter 6

MAJOR THEMES OF ANALYSIS

In this final chapter we return to the purposes described in Chapter 2. Figure 2-2 of that chapter presented a conceptual framework outlining relationships of major interest to us; subsequent chapters described the research design, measures, and techniques of analysis developed to explore these relationships. Now, with this blueprint of the study largely completed, we are ready to elaborate our major substantive interests.

Our approach will be to discuss the major categories of analysis that have developed from the conceptual framework, and to treat several substantive issues in each.

Effects of Environments on Criteria

We will give high priority in our data analysis to the exploration of direct (that is, non-interactive) effects that environments have on criteria (Arrow 2 in Figure 2-2). Such analyses will take place relatively early because they are the least complex of our analysis efforts, and because early findings in this area can provide guidance for some of our later (and more complex) analyses.

Our first step in this analysis of environmental effects will be to examine virtually every major pairing of environmental variables with criteria, as shown in Figure 2-2. This will become feasible only after a good deal of index and cluster development (see Chapter 5).

The effects of environments on criteria will be explored first with cross-sectional analyses using the data available at Time 1. Many findings at this stage will provide fairly strong evidence of causal relationships; for example, if long-standing factors in the home environment are found to correlate with certain criteria, our interpretation is likely to stress the home environment as a causal factor. Other cross-sectional findings will be only suggestive of causation; for example, although we may find that certain characteristics of friends relate to a boy's values and attitudes, it will remain for a longitudinal analysis to indicate whether the boy's friends influences his values, or that his values influenced his choice of friends (or both).

Longitudinal analyses of environmental effects will begin as soon as the Time 2 data are collected, and will continue as the Time 3 data become available. Such analyses will be guided by, but not limited to, those relationships which appeared most promising in the initial cross-sectional analyses.

Environmental Effects on Self-Development, Self-Utilization, and Affective States. Among criteria of greatest interest in our longitudinal analyses of environmental effects will be changes in self-development, self-utilization, and affective states. Certainly one major purpose of a school environment is to promote the student's self-development, to assist in his acquisition of new skills and competences. In doing this, the school uses extensively the skills and competences already developed by the student. It is an empirical question, however, whether these educational intentions are fulfilled in curricular and extra-curricular activities, and whether the abilities demanded and developed are those which the student values.

In work environments, the usual emphasis of non-supervisory jobs is on the utilization of skills. The opportunity to utilize one's skills on the job is an integral part of job satisfaction, as demonstrated in a number of studies, including Argyris (1957, 1959) Baehr and Renck (1958), Blum (1958), King (1960), Roach (1958), and Wherry (1958). Lack of skill utilization is also associated with higher voluntary turnover (Argyris, 1957 and 1959). Other studies have related utilization of skills to mental health and illness behavior. Thus Kornhauser (1960) found that workers having low skill and monotonous jobs had the lowest scores on their mental health measures. Kasl and French (1962) found that perceiving one's job as dull and monotonous was positively related to the frequency of visits to the company dispensary. In summary, then, a number of studies suggest that utilization of one's skills is of some importance to one's feeling of well-being.

In view of such findings, we hypothesize that the extent to which a school or a job permits and encourages a young man to develop and utilize skills will have significant effect on his level of satisfaction, affective states, social values, and self-esteem. These general hypotheses linking opportunities for self-development and self-utilization to mental health make it important to consider some of the major factors in school and work that may be related to such opportunities. For example, we expect a curvilinear relationship between school size and opportunities for developing and utilizing skills. Very small schools are likely to lack the variety and depth of academic programs, the laboratory facilities, and the range of faculty talent that enhance student opportunities to use present abilities and to develop new ones. On the other hand, very large schools are likely to be bureaucratic, impersonal, and to impose impersonal decision rules that limit opportunities for self-utilization and self-development.

Here, as elsewhere, we will be interested in the analysis of deviant cases. For example, we expect that, even if our general hypotheses regarding self-development and self-utilization are confirmed, there will be some very small schools that manage to offer variety and opportunity, and some very large schools that avoid the typical problems of bureaucratization. Such schools will provide an opportunity for more intensive analysis on a case-study basis.

Our discussion above focused largely on differences among schools; but it seems likely that different work environments will present even greater variations, with some encouraging a high degree of development and utilization of abilities, and others providing few or no such opportunities. For example, the presence or absence of training programs for more skilled and responsible positions, the ease of access to such programs, and the interest and autonomy of the immediate supervisor in making nominations to such programs, would be among the hypothesized determinants of self-development in the work situation—in much the same way flexibility and variety of curriculum, and teacher interest and autonomy are predicted to operate in the school situation.

Finally, we expect that situations of unemployment (for boys not in school) generally will involve the most drastic reduction of opportunities for developing and utilizing areas of personal competence, with adverse effects on affective states, social values, and self-esteem.

Environmental Effects on Vocational Development. The dimensions of vocational development to be examined in our study include occupational plans and attitudes, level of occupational aspiration, and the realism of such plans and aspirations. Subsequent outcomes of even greater interest will be the occupational level actually attained and the "goodness-of-fit" between the person and his job. Some of the most important determinants of such vocational criteria are factors in the home environment, including level of education and occupation of parents and older siblings, and the general level of resources available in the home. In the school environment the factors likely to influence vocational development include programs and courses providing information about occupations, vocational guidance and counseling, and job placement. Other factors to be related to vocational choice include the extent to which the school is homogeneous or heterogeneous with respect to such student characteristics as socioeconomic level, academic ability, ethnic and religious background, and race. And, of course, the overall quality of education provided by a school is likely to affect the vocational outcomes of its students; our approach here will be to examine the relationship between vocational outcomes and such potential indicators of school quality as per-pupil expenditure, class size, faculty salaries, and length of faculty experience.

Problems of Multiple and Interacting Causes. Our discussion thus far has been devoted to relationships among *pairs* of variables. But in fact much of our data analysis will involve the study of certain environmental effects while holding others constant (through partial correlation and regression procedures). We will use such procedures extensively to explore relationships between school environments and criteria while controlling for differences in home environment. It will also be necessary to control certain person characteristics while studying environmental effects. An obvious illustration is the study of the school environment as a determinant of entrance into college; in such a study we will certainly want to control for differences in intelligence.

In our examination of environmental effects, and indeed in all phases of this research, we expect multiple causes to be the rule rather than the exception. Thus one of our major aims is to discover which variables make the greatest difference. And a closely related aim will be to explore the degree to which deprivation in one area may be compensated for in another. The absence of a father may be much less critical to a boy if there is an available substitute, such as an admired teacher or an exemplary boss. In pursuing this line further we may find that the absence of a wide range of vocational experience and exposure in the home will be less damaging if effective counseling is provided by the school.

As the above examples suggest, we agree with Coleman (1966) that the influence of the school environment is likely to be greatest for the students who enter with the least information and the least formed values about career and self. But we also predict that the influence of the good school is not negligible for students more initially advantaged, although it is likely to be different in content as well as in degree. For example, the impact of an excellent school on the vocational thinking of a boy from a prosperous professional-managerial community might be less in terms of information acquisition, but substantial in terms of value issues that affect career choice.

Effects of Person Characteristics on Criteria

As in the study of environmental effects, our study of how person characteristics affect criteria (Arrow 1 in Figure 2-2) will begin with exploratory cross-sectional analyses using data collected at Time 1. Even more than is the case with environmental effects, the study of person effects upon criteria (that is, other characteristics of the person) will require longitudinal analysis.

The longitudinal analysis in this area quite often will be directed toward the difficult goal of disentangling the primary causal pattern when two dimensions of the person are found to be correlated. We turn our attention next to a relatively complex illustration of this general problem: the relationship between self-identity and other aspects of the person.

Factors Related to Self-Identity. In the study of self-identity, one of the most interesting and vexing problems is the process by which a person's self-identity is developed and modified. One possibility is that a person tends to "become what he does," that is to say he comes to perceive himself as the kind of person who does what he—or others—observe him to be doing. According to this viewpoint, we would expect that a boy who observes himself doing badly in school will come to think of himself as being stupid, even though lack of ability may not be the real cause of his poor performance.

Just as plausible is the opposite explanation: that actions are caused by the self-concept. In a cross-sectional analysis, a correlation between a person's behavior and his self-concept would be consistent with either explanation. Thus one of our interests in longitudinal analyses will be to examine these alternatives and see whether one causal direction predominates.

A closely related issue is the degree of realism in identity formation. How accurately are individuals able to assimilate new information into their self-concepts, especially when this information is not of a positive sort? An example is the adjustment that must be made by the boy who has thought of himself as someone headed for college, only to learn that he is not suited for college work.

We expect to examine the general process of vocational aspiration-setting as a function of self-identity, especially considering such self-attributes as intelligence, academic ability, and reading skills. We expect that realism in vocational aspirations will increase during the high school years (from Time 1 to Time 3). Also, in some cases aspirations may be lowered unrealistically, perhaps as a reaction to failure. One form of analysis to be employed here is the study of discrepancies between actual levels of vocational aspirations and those predicted from ability test scores. (The same basic procedure will be applied in comparing actual and predicted grades—an approach often used in studies of over- and under-achievement.)

One other important issue in the study of self-identity is the impact of self-evaluation of skills upon general self-esteem and other affective states. Stated simply, the hypothesis is that a high evaluation of one's self along relevant dimensions (such as intelligence, athletic prowess, and physical attractiveness) will lead to high-levels of global self-esteem and other positive affective states. Positive correlations likely will appear among these dimensions, but it remains to be seen whether the longitudinal analysis will demonstrate the hypothetical causal direction.

Effects of Motives on Behaviors. Among the characteristics of persons most important in our study are motives, defined as relatively stable preferences for classes of outcomes. We will examine the effects of motives upon occupational aspirations and outcomes, academic achievement (grades, entrance into college, etc.), dropping out of school, and delinquent behaviors.

Of special interest to us will be the impact of achievement related motives, both the tendency to approach success and the tendency to avoid failure (Atkinson, 1958, 1964). We expect, for example, that a high need for achievement will be reflected in high performance in school, provided the school situation is sufficiently challenging (as in schools using ability grouping). We also expect that a high fear of failure may lead some boys to leave school, especially if most available school activities are threatening to them.

Much of our interest in motivation involves the interaction of expectancies, values, and abilities; these topics are discussed later in this chapter.

Person-Environment Interactions Affecting Criteria

Up to this point in our discussion, our approach has been largely empirical, within a very broad theoretical framework. While there are certain relationships of special importance to us, our study of the direct effects of environments and of person characteristics will be exhaustive in the sense that virtually all possible direct relationships to the criteria (designated by Arrows 1 and 2 in Figure 2-2) will be examined. When we turn to the effects of the interaction between person and environment characteristics, the number of possible relationships expands geometrically, and such an exhaustive treatment becomes quite impossible. Thus in this area of analysis we will have to become more selective and specify which combinations of person and environment dimensions are to be studied.

We will begin by discussing briefly some important criteria that we expect to be affected by "goodness-of-fit"—that is, the degree to which characteristics of a person are compatible with features of his environment. Next we will deal with some of the major dimensions of interest in calculating such goodness-of-fit scores.

Factors Affected by Person-Environment Fit. We intend to consider the effects of person-environment fit on all of the categories of criteria shown in Figure 2-2 (and detailed in Table 4-1). However, it seems likely that some of our criterion dimensions will be especially susceptible to variations in goodness-of-fit.

Let us consider first some general effects of a poor fit between a boy and any relevant environment such as school, work, or home. (We will shortly have more to say about just what constitutes "poor" fit.) One such effect should be changes in our measures of affective states; poor fit is expected to increase levels of anxiety, resentment, anomie, irritability, and perhaps physical symptoms; a lack of fit is also expected to reduce levels of general happiness and perhaps decrease self-esteem. Another general effect of poor fit is expected to be changes in attitude measures in negative and anti-social directions. The more manifest reactions to poor fit are likely to include an increase in delinquent and rebellious behaviors.

The above reactions are expected to apply to lack of fit with any environment; some other outcomes are likely to be specific to a poor fit between a boy and his school environment. An obvious result of a lack of fit in school will be statements of dislike and disinterest, plans to drop out, and the actual leaving of school. (In the later stages of the study, we expect to find parallel relationships when studying the fit between the boy and his *work* environment.) Another indicator of the boy's fit with his school environment is likely to be his investment of time and energy—as reflected, for example, in the amount of time he devotes to homework. This last example provides a particularly clear illustration of a general problem in studying the effects of person-environment fit: a pattern of causation that is cyclical. If the fit between a boy and his school influences the amount and quality of his homework, it seems equally true that his homework will affect his fit with the school.

Dimensions of Fit Between Persons and Environments. As we noted earlier, it would be impossible to test out all possible interacting combinations of person and environment measures. Thus, in developing our measures of person-environment fit we must determine in advance which dimensions of persons are likely to interact with which characteristics of environments. Although we have yet to specify many of the pairings of person and environment characteristics, two major areas are basic to our study design: the matching of abilities with school and/or job requirements, and the matching of motives with school and/or job opportunities for motive gratification.

It is a truism that a person's fit with his school or work environment depends on the match between the abilities he possesses and the abilities required by the environment. Beyond that basic generalization, however, are found less obvious issues that require research. Our intention is to measure some of the matches between abilities and requirements, and then to assess the relative importance of this fit as a predictor of the criteria discussed earlier. We are also interested in discovering the optimal match between abilities and requirements and in learning whether this match is essentially the same for all criterion dimensions.

A number of major abilities were measured at Time 1, including intelligence and reading ability. Certainly these abilities are central to successful performance in virtually all schools; thus one estimate of the fit between boys and their school environments will be simply the measured ability of each boy—based on the assumption that the more intelligent and skilled at reading a boy may be, the better he will be able to handle school work. A more adequate treatment of fit along these dimensions may be to relate boys' abilities to the various demands of their particular schools; thus, while intelligence may be useful in all school situations, there may be some schools in our sample that are especially demanding (and perhaps less able to tolerate and make allowances for the slow learner).

An intriguing problem in the study of person-environment fit has to do with whether there is a single optimum match between person and environment along any given dimension. For the sake of simplicity, we have often referred simply to "goodness-of-fit" without stating that a good fit in terms of one criterion may be a poor fit in terms of another. To cite one example that we plan to explore: it is not at all clear that the match between abilities and demands that an individual finds most satisfying is the match that will maximize his self-development or self-utilization. It is possible that boys develop most fully in school environments that demand an uncomfortable degree of effort and a stretching of abilities. Whether the criterion is satisfaction, self-development, or self-utilization, we expect to find frequently curvilinear relationships with the match of ability requirements—that is, we expect to find some cases of too little ability in relation to ability requirements, and (perhaps less often) too much ability. But we expect that the curves will be different for different criteria.

A second major area for the study of person-environment fit is the match between motives and environmental characteristics that may gratify or frustrate these motives. Some of the motive dimensions of special interest to us are need for achievement, need to avoid failure, need for affiliation, need for self-development, and need for self-utilization. In addition to measures of boys' motivation along each of these dimensions (which is presumably a relatively stable characteristic for each boy), our data include estimates of the extent to which school and other environments permit gratification of these motives. As in the case of the match between abilities and environmental demands, we expect to find curvilinear relationships in the matching of motives with opportunities for gratification. Just as a school can require too much or perhaps too little ability for a particular boy, it is also possible to provide too much or too little challenge for the amount of achievement motivation a boy has.

Our discussion in this chapter has concentrated upon deriving measures of fit from separate measures of person and environment characteristics. Another approach is to attempt direct measurement—in this case we *ask* the boys how well the demands and opportunities in their school environment (and, in later data collections, their work) fits in with their abilities and needs. It remains to be seen how well this fairly simple and straightforward approach will work; one of our research aims will be to find out.

Environment-Environment Interactions Affecting Criteria

One elaboration of our conceptual framework involves the interaction of two or more environmental factors in affecting criterion dimensions. We made some mention earlier in this chapter of the problems of multiple and interacting causes, and noted one particular form of environment-environment interaction—the possibility that one environment can *compensate* for another in filling important needs in a boy's life. A number of other forms of environment-environment interaction are likely to be examined; in particular, we will explore the effects of conflicting environmental demands—in other words, role conflict.

Role Conflict. The kind and magnitude of role conflict to which an individual is exposed has been shown to be a determinant of his satisfaction level and his level of tension. The relationship of role conflict to performance is less clear, and remains an issue of some importance in role theory and research. All the relationships between role characteristics and their effects have been shown to be strongly mediated by personality factors, including introversion-extroversion, emotional sensitivity, and flexibility-rigidity. (Kahn, et al., 1964; Biddle and Thomas, 1966.)

In the present research we are interested in five major conceptual categories of role conflict which can be labelled inter-sender, intra-sender, inter-role, person-role, and emergent conflict. We can illustrate and define each of these in the context of the student role.

Inter-sender conflict occurs when two role-senders (persons who have specific expectations regarding the student's behavior as a student) disagree with respect to what he should do, and therefore send him conflicting messages or otherwise attempt to influence him to behave in incompatible ways. For example, the football coach might urge a student to spend all his afternoons practicing place-kicking; the mathematics teachers might urge the same student to spend the same afternoons becoming more proficient at solid geometry. The seriousness of this inter-sender conflict for the boy involved depends on the strength of the demands (role-sending) and his own vulnerabilities to such conflict.

A second type of conflict, intra-sender conflict, is generated by a single role-sender. For example, a boy may be told by his parents to do whatever is necessary to get good grades but also never to cheat on exams. Or a father might demand that his son be prominent in extra-curricular activities and also hold an after-school job, even though the two activities occupy the same hours of the day.

The latter example suggests a third category—conflict between roles. The student who is asked in effect to invest the same time and energy in studying and in working for pay experiences inter-role conflict; he can meet the work expectations or the study expectations, but not both—at least not within the constraints of time available.

Person-role conflict refers to an incompatibility between certain requirements of a role and an enduring attribute of the individual—an ability or need or value. In many schools the role of student is defined in terms that clash with important personal needs, values, or abilities. The naturally slow learner may be told to "keep up"; the eager and gregarious student may be instructed to remain silent in favor of others; a boy with a strong sense of loyalty may be required to report the misdemeanors of a friend.

Finally, there are forms of conflict that do not reflect such intrinsic incompatibilities, but rather that derive from situational constraints. The stock complaint that each teacher "thinks his is the only course I'm taking" is an objection to overload—a form of role conflict that emerges under certain time constraints. A time limitation can create conflict among role requirements that are not inherently incompatible.

We expect that the effects of role conflict will be negative, that the incidence of role conflict will vary significantly among schools, and that organizational flexibility and teacher autonomy will be among the determinants of such conflict.

Dimensions of Role Conflict. A primary source of data for the study of role conflict is a set of questions asking each boy how he thinks a number of role-senders (parents, siblings, teachers, and friends) would feel about certain things he might do (drop out of school, get bad grades, get into trouble, plan to go to college). Criterion dimensions which we expect will be particularly affected by degrees of role conflict will be the actual corresponding behaviors (dropping out, school grades, delinquency, application to college) which follow role-sending.

We have concentrated here upon the study of conflicting role-sending as an important illustration of environment-environment interaction. In addition, of course, we expect to find non-interactive effects from role-sending. Very simply, we expect that a boy's behaviors will be directly influenced by role-sending; and the less conflict among role-senders, the stronger will be this influence.

Person-Person Interactions Affecting Criteria

Another elaboration of our conceptual framework treats the interaction of several personality dimensions as they affect criterion dimensions. This form of interaction is very central to the motivational theory that has guided our research.

Motivation as a Function of Expectancy and Value. It is a commonly held assumption that one of the problems of some young people, especially the disadvantaged, is a lack of motivation. In dealing with this issue we have been influenced much by the work of recent motivational theorists. Atkinson (1958, 1964) and Vroom (1964), continuing in the "expectancy-value" tradition of Lewin and Tolman, have argued that motivation depends upon anticipated *value* of some outcome, and also upon the *expectancy* that one's motive-relevant behavior can succeed in obtaining the outcome. The distinction between expectancy and value is particularly important in the analysis of the motivation of disadvantaged groups. It is often assumed that motivational problems in these groups come from a lack of desire for the achievement goals and incentives in our society—"they don't have middle-class values." It is possible, however, that the problems of lack of motivation and demoralization in these groups come less from a lack of desire for the goals our society offers, and more from a feeling that they have little chance of attaining these goals. In the terms of the motivational theorists, the problem may be one of expectancy rather than incentive value. Turner (1962), for example, has presented data collected on high school students which suggest that the usual differences found between middle class and working class attitudes are not obtained when the questions focus on what is valued and admired, but are obtained when the questions focus on the student's expectancies and perspectives for his own life. Rotter (1963, 1966) has distinguished between individuals who perceive that they themselves control their fate (internal control) and those who feel they are controlled by outside events (external control). Of special interest here is Rotter's finding in a national sample of children that a perception of internal control is positively related to social class, with race and intelligence held constant. Coleman (1966) has found recently that an important predictor of school achievement is "the extent to which an individual feels that he has some control over his own destiny." (p. 23).

The finding that the expectancy dimension is strongly associated with class differences has important and potentially encouraging implications (Gurin and Bradford, 1965). In contrast to the value dimension, which may reflect deeply ingrained personality tendencies, the expectancy dimension is assumed to be particularly susceptible to environmental and educational influences. Thus we expect that different school environments, and also different work and non-work environments, will show important motivational effects, and that these affects will operate primarily through a modification in expectancies. In the area of occupational aspirations, for example, the most effective schools will be those which succeed in establishing expectancies realistically based on an awareness of effective paths to occupational attainment. Moreover, it seems likely that the effects of such a school environment will be greatest for those persons who are relatively disadvantaged, those who would be most likely to start out with unrealistic perceptions of the world or work.

Performance as a Function of Motivation and Ability. Much of the foregoing discussion reflects our view that motivation is an important determinant of major criterion behaviors in our study. But in several of these behavior areas (such as academic achievement and entrance into college) another important determinant is ability. Our hypothesis concerning the interaction of motivation and ability is straightforward: performance = f (ability X motivation). It follows from this hypothesis that we expect to find that variations in motivation will have more pronounced effects in boys of relatively high ability; and it also means that variations in ability will be reflected in performance only to the extent that boys are positively motivated. (For an extended discussion of this hypothesis, see Vroom, 1964, pp. 197-204.)

The Study of Schools as Organizations

The study of schools as organizations is a secondary purpose of our research, but it is nonetheless a purpose of considerable importance. Our main purpose, as we have said, is to understand the processes of growth and change during adolescence insofar as they are determined by the immediate environment. We are especially concerned with the contrast among school, work, and non-work situations, but we are interested also in the differing characteristics of schools. Many of these differences can be conceptualized in terms of open system theory, as applied to organizations by Katz and Kahn (1966). In this section we describe this approach and consider some of the organizational characteristics which we will treat as major causal variables.

Each of the hundred schools in our sample is an organization in its own right, and can be viewed as an *open* system—that is, as a stable pattern of *energy input-transformation-output.* Moreover, the school is a *human system*, which means that its stability and its continued ability to function is achieved through a set of related roles (teacher, counselor, principal, department head, student, etc.). Each school as an organization exists in a larger social context or environment of other organizations and individuals (board of education, municipal agencies, other schools, parent-teacher organizations, etc.). Given this general approach in these definitions, what are the organizational variables that require study? We will consider them under six headings:

- —The inputs of energy and resources that the school requires and the system by which they are allocated.
- —The resources currently held by the system.
- —The characteristics (stability-instability, independence-interdependence, etc.) of the school's role system.
- —The nature and degree of interchange of the school with agencies in its environment.
- —The nature, quality, and quantity of the school's outputs.
- —Additional characteristics of formal structure.

Inputs Required by Schools and Processes of Allocation. Regarding inputs which are organizationally required, we are concerned both with resources which the school must obtain from outside and with the effort it obtains from its teachers and students:

(1) What resources must the school obtain from external sources? (For example, personnel, operating funds, buildings, equipment, and maintenance services.)

(2) By what processes are these resources obtained and allocated?

(3) To what extent is the staff of the school influential in these processes of obtainment and allocation?

(4) How much time and energy does the school expend to obtain such resources, or to influence their amount and allocation?

With respect to the input which the school requires of its members, both teachers and students:

(5) Gross demands: How hard do people have to work?

(6) Distribution of demands: Is the school characterized by a uniform distribution of effort among students, faculty, and administration, and within these groups?

Resources Currently Held by the School. The nature of the inputs already obtained or received by the school will be studied as follows:

(1) *Personnel;* how many members does the school have in each type of role (teacher, counselor, etc.). What are their aggregate characteristics in terms such as education, experience, sex, and racial mix.

(2) *Students;* how large is the student body and how is it divided into the various programs of study (for example, college preparatory or vocational). Also of importance will be such characteristics as ethnic composition and proportions of various socioeconomic levels.

(3) *Buildings, grounds, and equipment;* (including books) owned by the school.

(4) *Funding;* a more general measure of the resource inputs which the school has received other than personnel and equipment is the total monetary input. Both gross and per-pupil expenditures will be examined.

(5) *Adequacy of resources held;* how do the inputs which the school has been able to secure compare with the needs of the school as internally assessed by principal, teachers, or others?

The School's Role System. Looking at the high school as a set of related roles (including teachers, students, counselors, and administrators), we plan to examine the following issues:

(1) *The stability of roles;* how often are the contents of jobs changed or new roles and role structures created?

(2) *Changing the role system;* by what processes is the content or larger structure of roles changed?

(3) *The stability of role occupancy;* what is the rate of personnel turnover in the different roles?

(4) *Changing role occupants;* under what circumstances and at whose initiation may persons be transferred, dismissed, or promoted?

(5) *The balance between role prescriptions and individual role elaboration among teachers;* that is, the extent to which substantive and stylistic aspects of teacher performance are specifically prescribed (by principal, department chairman, or others), as compared to the extent of individual structuring of the role by the teacher himself.

(6) *Evaluation of the system of roles;* how often is the role system evaluated in terms of its productive effectiveness and in terms of its meeting the needs of role occupants? Who makes such evaluations? How often? What actions have resulted?

(7) *Socialization of new members;* what attempts are made to orient new role occupants and to clarify role expectations at the outset?

(8) *Evaluation of role performance;* the availability of criteria of excellence, the manner of their determination, the generation of data on individual teacher performance, the extent of feedback, and the sanctions or rewards associated with the process.

(9) *The rewards and penalties;* what rewards and penalties are used to elicit performance of people in roles—teacher, auxiliary staff, and students.

(10) *Sources and nature of control of inputs;* to what extent are decisions regarding productive input "own decisions" by individual teachers and students, and to what extent are they organizationally determined? To what extent is energy input by teachers

and students induced by rewards and punishments, by example and identification, or by other means? To what extent are the inducers organizational peers, superiors, or others? To what extent are these processes of control formal and institutionalized, and to what extent informal?

(11) *The composition of role sets;* that is, the set of individuals who define and enforce the role requirements for a given teacher, student, or other member of the school organization. We want to know, for example, how much overlap or redundancy there is among role sets, how "connected" the organization is internally. We also want to know the extent to which role sets are essentially hierarchical in composition, to what extent made up of peers, and to what extent of "subordinates."

(12) *Maintenance of role occupancy;* we want to know the means by which the school attracts and holds teachers and administrators in the required roles. Bases of attraction may include salary, location, rate of promotion, school reputation, freedom to do innovative work, and the like.

Openness and Closedness; Transactions Between the School and Its Environment. We deal in this section with three broad types of transactions:

(1) To what extent is the school dependent upon or influenced by outside agencies in determining its basic inputs? More specifically, what agencies decide which students shall attend a given school? What agencies decide which teachers will be assigned to a given school? We will be interested in the part played in such decisions by the board of education, by other parts of the larger school system, by units of the community government (city council, for example), and by voluntary organizations such as parent-teacher organizations and teacher associations. The same issues of influence can be raised with respect to curriculum decisions within the school, matters of discipline, and other areas of policy-making.

(2) Transactions that are initiated by the school in order to influence the outside environment are of equal interest. We would want to know, for example, the extent to which the school influences decisions in the larger school system and the extent to which the school enters into family, neighborhood, and community issues outside the limits of curriculum as such.

(3) Related to both these kinds of transactions is the question of how closely the school approximates a "total" organization; that is, how much of the students' (and teachers') lives are organizationally contained and are considered organizationally relevant. The minimum stipulation would restrict the school to school

hours and academic affairs. Any attempt by the school to inquire about or to influence behavior off the premise would be construed as an invasion of privacy or a breach of civil rights. At the other extreme is that philosophy of education and management that puts the school in the place of parent, with respect to recreational, vocational, and other extracurricular aspects of life. We want to differentiate schools on such dimensions as this, and also to determine whether the extent of the school's involvement in the broader aspects of a student's life is at the option of the student, at the decision of teachers, or otherwise determined.

Outputs of Schools. The three major classes of organizational output are physical products, services, and changes in people. ' More specifically, organizations of different types export into the larger society physical products that have been changed in composition, combination, or other properties; services that include lesser product modifications and changes in location, as well as a wide range of services to individuals; and people—or more properly changes in the skills, abilities, and other attributes of individuals. Schools are engaged in the process of changing the attributes of people. There would be a great deal of disagreement, we suspect, about the dimensions along which such changes are properly sought, the optimum location of those dimensions toward which such changes should be directed, and the means by which changes may properly be attempted by the schools. There is little question, nevertheless, that such changes do constitute the basic product of the high school. For example, students are expected to leave high school with increased ability to read a wide range of material, to solve mathematical problems, and to write with clarity and fluency. Whether they are also expected to have gained in interpersonal skills, formulated their career plans more fully, or changed in social values are perhaps examples of more debatable issues.

Our major interest in this area is in the actual organizational output of schools, as indicated by changes in the individual students, ascertained by comparative measures at successive points in time. There is no implication that this actual output of the school is also the output intended by its faculty with respect to such issues. We have a considerable, albeit secondary, interest in comparing the actual output of schools with their intended output and in determining the extent of agreement in intentions. Our expectations are that there exists agreement among educational staffs only in Olympian terms—greater competence, increased maturity, improved social skills—and not on the specific attitudes, values, aspirations, and abilities in terms of which change should be sought. Still less do we expect agreement on the means by which such change can be effected.

Additional Properties of Organizational Structure. The preceding areas of research seem to us to stem directly from the definition of organization we have proposed and from the view of organizations as open systems. There are a number of additional variables which we propose to measure. These include *size* (number of students and number of teachers), number of *echelons*, *degree of specialization*, *group norms*, and *group structure* (especially number and jurisdiction of decision-making groups).

Analyses of Organizational Variables

Analyses of organizational variables will take several forms, including:

- Descriptive
- Comparative (with other kinds of organizations)
- Explanatory (the use of organizational variables to explain differential changes observed in students between Time 1 and Time 3).

The first of these is very straightforward; the second very complex and feasible only on a fragmentary basis. It is the third—the use of organizational variables to contribute to the explanation of student outcomes—that will be our main emphasis.

Descriptive Analyses. These analyses will take advantage of the fact that we have a nationwide probability sample of high schools. It therefore becomes possible to describe the high schools of the United States as organizations, to identify "typical" forms of organization, deviations from the usual, and also to describe the ways in which organizational properties of schools are patterned or clustered. For example, is increased size associated with increased or decreased teacher autonomy; are schools in small communities more or less open to influence from other agencies; are schools that rely on broad involvement of teachers in decision-making more or less likely to have consensus on educational objectives?

Comparative Analyses. There are several reasons for comparing the structure and functioning of high schools with industries, government agencies, research and development laboratories, voluntary associations, and organizations. For one thing, a good deal is known about factors associated with effectiveness in these kinds of organizations; less is known about the relevance of such findings to educational organizations. For another, it has been argued that the function of high schools requires special characteristics of organization, but the arguments have been supported only by illustrative, case-study data.

Explanatory Analyses. The major use of our organizational data, however, will be to contribute to the explanation of understanding of the major output of schools—their students. Specifically, the following criterion or outcome variables are our foci of interest: changes in level of self-development and self-utilization, changes in affective states, changes in vocational aspirations, academic achievement, incidence of gross school-relevant behaviors (such as, dropping out, absence, rebellious acts).

A second area of explanatory analysis will deal with outcomes for the members of the school staff. Included in these criterion outcomes will be various aspects of job satisfaction, perceptions of self-utilization and self-development, a number of affective states, and plans for career development or changes.

Summary

Most of the substantive issues to be treated in this study will be analyzed within the broad categories developed from our conceptual framework: (a) the effects of school, work, home and other environments on such criteria as self-development, self-utilization, affective states, and vocational development; (b) the effects of personality dimensions such as motives upon important criterion dimensions; (c) the interactive effects of person and environment characteristics, with special attention to the "goodness-of-fit" between abilities and demands, and between motives and opportunities for gratification; (d) the interactions among several aspects of environments, particularly as these result in role conflict; and (e) the interactions involving several aspects of the person, such as expectancies and values, or motives and abilities.

A secondary but important set of issues to be analyzed involves the study of schools as organizations. A series of research questions and hypotheses have been developed largely from viewing school organizations in terms of open systems theory. Analyses of school organizational variables will be descriptive, comparative (with other kinds of organizations), and explanatory. The explanatory analyses will focus on two broad classes of criterion variables: (a) changes in characteristics of students, who constitute the major output of schools; and (b) outcomes for members of the school staff.

EPILOGUE: SAMPLING PROCEDURES AND RESPONSE RATES

The first major data collection of the Youth in Transition study was conducted in October and November of 1966. Substantive findings from this and subsequent data collections will be presented in other volumes in this series. But one aspect of the initial data collection, the selecting and recruiting of schools and subjects, is treated here because it established the panel that will be involved throughout the longitudinal study.

Securing Schools to Participate

Since the procedures were different in several respects, we will consider separately the selection of schools in the probability sample and the choice of the discretionary sample of outstanding schools.

Probability Sample. A list of 88 high schools was drawn by the Survey Research Center's Sampling Section, following the sampling design described in Chapter 3. Efforts began in April 1966 to secure the participation of those schools; a letter of invitation describing the study was sent to each principal, followed by a telephone call from a project staff member. Often this procedure was sufficient to obtain school participation, but further mail and telephone contacts were used, as necessary.

Of course, even the most extensive efforts did not secure the participation of all principals contacted. An affirmative response was obtained from 71 of the original sample of 88 schools; this 81 percent response rate compares favorably with other national studies conducted in schools. Of all principals contacted a majority appeared interested in the research and willing to cooperate. Of those who declined, many expressed interest and desire to participate, but were not able to do so.

Table 1 summarizes the primary reasons given by the 17 principals in the original sample who declined to have their schools join the study. From this table it can be seen that the most serious obstacle to gaining cooperation in this research project was the fear on the part of principals (and sometimes superintendents and school boards) that they would be subject to the public criticism of certain groups for allowing their students to be tested and given questionnaires. In a number of instances they

TABLE 1

REASONS FOR DECLINING FOR SEVENTEEN SCHOOLS IN ORIGINAL SAMPLE

Reason cited	Number of schools
Fear public reaction to testing	4
Fear public reaction to testing; also staff overloaded[a]	3
Staff too busy; overworked	3
Over-researched - in a college town	1
Simply no available space	1
School going out of existence[b]	1
Many staff changes, and moving to a new building	1
Principal leaving - does not want to commit future administration	1
Refused by school board; no reason given	1
Principal refused to give any reason	1
TOTAL	17

---

[a] Two of these schools were in the same system. Refusal to participate came from the associate superintendent level.

[b] Strictly speaking, this school should not be counted as a refusal; because it was going out of existence it became ineligible for the sample.

seemed embarrassed or apologetic, partly for themselves and partly for their community, for having to give this reason for declining. Some of the three schools who declined because the "staff was too busy" and the two schools who gave no reason for declining also may have declined due to fear of public reaction.

The process of drawing a replacement for a declining school began as soon as a final refusal was received. In all cases, the Sampling Section first attempted to locate a similar school (in terms of size, racial composition, etc.) in the same city or town. In cases where this proved impossible, a similar school was sought in a relatively comparable city or town within the same sampling unit. (See Chapter 3 for a description of sampling units.)

In the 17 replacement schools only one principal chose not to participate, giving the reason that his staff had been overworked recently by a large research study. Judging from our experience with other school systems in that region, it is possible that he also feared public reaction. (The school which his school was intended to replace had declined for that reason.) A second attempt to secure a replacement school resulted in a refusal, again because of concern over public reaction. Because so much time was consumed in these three unsuccessful attempts to fill that particular sampling unit, we were forced to discontinue the effort by the onset of the Time 1 data collection period (October). Thus we proceeded with only 87 of the 88 sampling positions filled. (Compensatory weighting of responses from boys in the same region is being used to reduce the bias produced by the missing school.)

Discretionary Sample of Outstanding Schools. A number of experts in secondary education were asked by the project staff to nominate schools which they felt to be outstanding in terms of academic excellence, organizational innovation, student-faculty relations, community relations, innovation in vocational preparation, or the promotion of student mental health. By selecting several nominations in each category and assessing the information supplied about each school, the list of over one hundred was narrowed to a target number of 17 schools. Then followed the process of contacting the principals, which was a slight modification of the procedure used with the probability sample.

Because of the impending deadline for the Time 1 data collection, principals in these 17 schools were first contacted by telephone. After written communication and further telephone conversations, 13 of the 17 agreed to participate, three declined, and one invitation was withdrawn because the school board could not make a final decision until mid-October.

Unfortunately, as the Time 1 data collection was about to begin, three principals who had previously given a firm commitment changed their decisions. One found that he needed county approval which was not quickly available. Another found that his guidance staff was very busy and was unwilling to become involved in the study. The third was rather vague about his reasons but apparently had encountered difficulty gaining the approval of the school superintendent.

The final discretionary sample, then, consists of 10 schools. The lower rate of cooperation in this sample as compared to the probability sample likely reflects the fact that schools such as these are asked to join in many more research ventures than the "average" high school. Since each study requires staff and student time, the principals become more resistant to further research requests. The differences in the contact procedures and the fact that these schools were contacted in the early fall of the year may also have contributed to the lower rate of cooperation.

Selecting and Contacting Subjects

Once the samples of schools had been established, field interviewers drew a sample of boys in each school, and mailed each sampled boy an invitation to participate in the study. Since the procedures for selecting subjects were somewhat different for the two samples, we shall continue to discuss them separately.

Probability Sample. The sample design discussed in Chapter 3 called for three stages of sampling:

(a) 88 strata each representing approximately two million people,
(b) selection of one school per stratum, with probability of selection proportionate to estimated number of male tenth-graders, and
(c) random sampling of 25 to 30 boys in each of the selected schools.

Slight variations occurred from school to school in the number of boys sampled, for the following reasons:

(a) the 88 strata could not be exactly equal in the number of people they represent, so a slightly larger number of boys was required in a school representing a slightly oversized stratum and a smaller number was required in a smaller stratum.
(b) the estimates of school size used in selecting schools were subject to some error, and corrections for these

errors involved further adjustments in sample size in each school.[1]

In a few cases it was found that the sample necessary to represent a school properly would have called for more tenth-grade boys than were enrolled in the school. In such cases all available boys were included in the sample, and their data are being weighted to avoid a systematic bias that would under-represent their stratum. In several other instances it would have been necessary to interview an unusually large number of boys in order to be fully representative. Since this would have burdened the interviewing staff excessively, an upper limit of about 35 interviews was set. Again a weighting process is being used to avoid systematic biases.[2]

Having established a desired sample size for each of the 87 schools participating in the probability sample, the project staff then sent each interviewer a procedure for selecting a random sample of that size from each school's records. The interviewers drew their samples as instructed and mailed a letter and brochure to each boy describing the study and inviting his participation. The letter and brochure were sent to the boys at home so that their parents could see the invitation and thus have an opportunity to raise any objections they might have. Shortly thereafter, the interviewer contacted each boy in school; if the boy had decided to participate, the interviewer either conducted the interview then or set an appointment at a time of mutual convenience.

There was one important variation from the above procedures: In five of the schools officials required that an additional letter be drafted by school personnel and sent to parents, requesting written parental permission to have their sons participate. (Of a total of 38 boys who refused to participate, 22 were located in these five schools.)

Discretionary Sample. A maximum sample size of 35 was set for each school in this group. If there were less than 35 sophomore boys in a school, all were included in the sample. If there were more than 35, a random sample of about 35 was selected. The boys were contacted in the same manner as used in the probability sample.

---

[1] For example, if a school turned out to have 20 percent more eligible boys than was estimated, then the size of the sample for that school was increased by 20 percent.

[2] The use of weighting involves a slight increase in sampling error, but the resulting decrease in accuracy is quite small.

Sampling Results. Table 2 presents the results of the above efforts to establish the two samples of boys. The "initial samples" consist of those boys whose names were originally drawn by a random sampling procedure and who remained in school long enough to be eligible for both the interview and the group-administered measures.

Implications of the High Response Rate. The final response rate was over 97 percent of all eligible boys. This high degree of participation is, of course, a source of considerable satisfaction to those directly involved in the study; but the response rate also has implications for the success and value of the longitudinal study.

At the very least, we *begin* the study with a representative sample—a sample virtually free of the sort of distortion that can be produced when large subgroups refuse to participate. Certainly there will be considerable sample attrition before the longitudinal study is complete; however, since nearly all of the loss will occur *after* the first data collection, it will be possible to estimate the resulting distortion by examining Time 1 data and comparing those boys who leave the panel with those who remain throughout the study.

TABLE 2

SAMPLING RESULTS

	Probability Sample		Discretionary Sample	
Original number of names drawn	2,350		314	
Not then in school	60		5	
Potential sample	2,290		309	
Left school during data collection	13		0	
Initial Sample	2,277	(100.0%)	309	(100.0%)
Refused to take interview, group-administered measures, or both	38	(1.7%)	1	(0.3%)
Missed interview, group-administered measures, or both	26	(1.1%)	2	(0.7%)
Complete Information	2,213	(97.2%)	306	(99.0%)

More important, the high response rate is just one indication of a high level of interest and cooperation on the part of boys and school officials. (Other more subjective indications include very favorable reports from the interviewers, from mail and telephone contacts with principals and other school officials, and from the boys themselves.) This level of rapport, so important in research of this kind, is a most encouraging finding at the outset of our study of Youth in Transition.

Appendix A

INTERVIEW

1. Place Interviewer's Label Here

Student Code No. ________

Sample Book No. ________

____

____

Do not write in above space

2. Date taken: ____________________

3. Total Length of Interview: ________

4. PSU: ____________________

5. School Code: ____________

6. Your Interview No.: ______

INTRODUCTION

This interview is part of a study being carried out by The University of Michigan. We are talking to tenth grade boys all over the country. We're interested in how boys your age feel about a number of things -- your ideas about school, the future, and things that interest you.

Try to keep in mind that this is not a test -- you won't be graded in any way. In this interview we only want to know how you feel and your ideas on things, so we can learn more about boys your age.

Let me say one more thing: this interview is completely voluntary; if at any time you decide you don't want to go on with it, just let me know. Is it O.K. to begin?

IF YES: GO TO FIRST QUESTIONS.

IF NO: Well, do you have any special reasons for not wanting to participate?

INTERVIEW NUMBER ________

A1. We're interested in the kinds of friendships that teenagers have. Could you tell me the names of your best friends? Include both boys and girls, if you wish, and any who are out of school as well as those in school. (LIST NAMES ON THE TABLE BELOW)

(FOR EACH FRIEND ASK THE FOLLOWING SET OF QUESTIONS)

A1a. Could you go down the list and tell me the sex and age of each friend?

A1b. Is he (she) still in school, and in what grade? (IF IN COLLEGE, RECORD IN COLUMN A1d)

A1c. (IF NOT IN SCHOOL): Did he (she) drop out of school or graduate?

A1d. (IF NOT IN SCHOOL): What is he (she) doing now? (E.G., WORKING [AT WHAT?], GOING TO COLLEGE, NOT WORKING)

A1	A1a	A1a	A1b	A1c		A1d
			STILL IN SCHOOL?			
			YES:	NO		
NAME	SEX	AGE	WHAT GRADE?	DROP OUT	GRADUATE	WHAT IS HE (SHE) DOING NOW?

A2. How important would you say your friends are in your life? Would you say that they are (READ RESPONSES)

( ) 1 VERY IMPORTANT
( ) 2 QUITE IMPORTANT
( ) 3 SOMEWHAT IMPORTANT
( ) 4 NOT VERY IMPORTANT - SKIP TO QUESTION A4
( ) 5 NOT AT ALL IMPORTANT - SKIP TO QUESTION A4

A3. In what ways are your friends important in your life?

A3a. (PROBE): Anything else?

A4. Now I'd like to ask you about the kinds of students there are at this school. At other schools the students have told us about many different types of students. In one school they mentioned the "beatnik" type, the serious students and the ones that are mainly interested in sports -- the athletes. In another school we heard about the drag-racing crowd, the hoods, the dating type; some told us about the rich students and the poor ones. In still another school they told us about the Negro and White students, the party types, the trouble-makers who are always breaking school rules, and also those who are in school just to prepare for a job.

What are the main types of students in this school?

A4a. Are there any other types of students here?

A4b. Of all the types you've told me about, which are you closest to?

A5. Students differ in the way they feel about school and teachers. What about the different types of students you have just mentioned -- do any of these types tend to dislike school?

( ) YES ( ) NO - SKIP TO QUESTION A6

A5a. Which types dislike the school?

A6. Do any of these types of students like your school?

( ) YES ( ) NO - SKIP TO QUESTION A7

A6a. Which ones like the school?

A7. In other schools we have sometimes found that students of one type don't get along with students of another type. Which of the different types would you say don't get along with each other here at your school?

1st pair ______________________________

____

2nd pair ______________________________

____

3rd pair ______________________________

____

4th pair ______________________________

____

(FOR EACH OF THE PAIRED TYPES IN CONFLICT, ASK THE FOLLOWING QUESTIONS: IF ALL TYPES GET ALONG WITH EACH OTHER SKIP TO QUESTION A8)

	1st pair	2nd pair	3rd pair	4th pair
A7a. In what ways don't they get along?				
A7b. (IF NECESSARY): Would you say that they just don't have much to do with each other, or do they argue or sometimes get into fights?				

A8. It turns out that different kinds of students are popular in different kinds of schools. What does it take to be popular in this school?

A8a. (PROBE): Anything else?

A9. Are there certain types of students who tend to have high status -- or be looked up to?

A10. Are there (other) types of students who tend to be looked down on? (PROBE: What students have lower status or are looked up to less than others?)

A11. Are any students here looked up to, or looked down on, because they are in certain course programs -- like college preparatory or vocational programs?

Now I'd like to ask you a few questions about your school ability -- not how you are actually doing, but how well you could do in your course work.

B1. How do you rate yourself in school ability compared with those in your grade in school? (HAND CARD B1 TO RESPONDENT) Just tell me the number on this card that best describes you.

( ) 1 FAR ABOVE AVERAGE
( ) 2 ABOVE AVERAGE
( ) 3 SLIGHTLY ABOVE AVERAGE
( ) 4 SLIGHTLY BELOW AVERAGE
( ) 5 BELOW AVERAGE
( ) 6 FAR BELOW AVERAGE

B2. How close do you come to doing the best work you are able to do in school? (HAND CARD B2 TO RESPONDENT)

( ) 1 VERY CLOSE
( ) 2 QUITE CLOSE
( ) 3 SOMEWHAT CLOSE
( ) 4 NOT VERY CLOSE
( ) 5 NOT AT ALL CLOSE

B3. How hard do you think you work in school compared to the other students in your class? (HAND CARD B3 TO RESPONDENT)

( ) 1 MUCH HARDER
( ) 2 HARDER
( ) 3 ABOUT AVERAGE
( ) 4 LESS HARD
( ) 5 MUCH LESS HARD

B4. How satisfied are you with the way you're actually doing in school? (HAND CARD B4 TO RESPONDENT)

( ) 1 VERY SATISFIED
( ) 2 QUITE SATISFIED
( ) 3 SOMEWHAT SATISFIED
( ) 4 NOT VERY SATISFIED
( ) 5 NOT AT ALL SATISFIED

B5. About how many hours do you spend in an average week on all your homework -- including both in school and out of school?

____

B5a. About how many hours of that homework do you do during school hours?

____

B6. Are there any subjects in this school that you're not taking now but would like to?

( ) YES ↓ ( ) NO - SKIP TO QUESTION B7

B6a. Which subjects are they? ______________________________

____

B6b. How come you're not taking it (them)? ______________________________

____

____

B7. Are there any subjects not offered by this school that you'd like to be taking?

( ) YES ↓ ( ) NO - SKIP TO QUESTION B8

B7a. What subjects are they? ______________________________

____

B8. Doing well in class depends on many things. What things do you think you need to do in order to do well in your classes?

B9. What things are important in getting along with your teachers? What do you have to do in order to get along well with teachers?

B10. What are the things you like about school?

B11. What are the things you really dislike about school?

B12. If you could change this school in some way, what would you do to make this a better place for students?

____

____

____

____

____

____

B13. What is the average grade you got in your classes last year? Putting them all together, how would your grades average out? (HAND CARD B13 TO RESPONDENT)

AVERAGE GRADE LAST YEAR: __________

B13a. What was the highest grade you got for either a semester or a whole year last year?

HIGHEST GRADE: __________

B13b. What subject was that in?

SUBJECT: _______________

B13c. What was the lowest grade you got for either a semester or a whole year last year?

LOWEST GRADE: __________

B13d. What subject was that in?

SUBJECT: _______________

B14. Were you ever kept back a grade in school?

( ) YES ( ) NO - SKIP TO QUESTION B15

Which grade(s)? ______________________________

B15. Were you ever skipped ahead a grade?

( ) YES ( ) NO - SKIP TO QUESTION B16

Which grade(s)? ______________________________

B16. Now let me change the subject for just a minute, and ask you about adults. Of all the men and women you know, who do you admire most? -- by that I mean, who would you most like to be like when you get older? NOTE RELATION TO R (E.G., TEACHER, FRIEND, PARENT, UNCLE) AND ALSO OCCUPATION.

____

B16a. What do you admire most about this person -- that is, what exactly is it that you like most about this person?

____

____

____

____

B16b. Can you tell me more about this person -- why do you like to be with him (her)?

____

____

____

____

B16c. All told, how important would you say this person is in your life? Would you say that he is (READ RESPONSES)

( ) 1 VERY IMPORTANT
( ) 2 QUITE IMPORTANT
( ) 3 SOMEWHAT IMPORTANT
( ) 4 NOT VERY IMPORTANT
( ) 5 NOT AT ALL IMPORTANT

( ) R MENTIONED RELATIVE IN B16 - GO TO QUESTION B17
( ) R DID NOT MENTION RELATIVE IN B16 - SKIP TO QUESTION C1

B17. (ASK ONLY IF R MENTIONED A RELATIVE IN B16) Now let me ask you about adults who are not relatives. Of all those you know, whom do you admire most? NOTE RELATION TO R (E.G., TEACHER, FRIEND, NEIGHBOR) AND ALSO OCCUPATION.

B17a. What do you admire most about this person -- that is, what exactly is it that you like most about this person?

B17b. Can you tell me more about this person -- why do you like to be with him (her)?

B17c. All told, how important would you say this person is in your life? Would you say he is (READ RESPONSES)

( ) 1 VERY IMPORTANT
( ) 2 QUITE IMPORTANT
( ) 3 SOMEWHAT IMPORTANT
( ) 4 NOT VERY IMPORTANT
( ) 5 NOT AT ALL IMPORTANT

Next we have some questions on how you're feeling these days -- some of the things you're happy about, and some things you're not too happy about.

C1. First, can you tell me what are some of the things you feel pretty happy about these days? Try to include here everything that's important to you -- your family, friends, school or other things you may be happy about or pleased with.

____

____

____

____

____

____

C2. Many boys have told us about things they're not completely happy about. What are some things you're not too happy about these days?

____

____

____

____

____

____

C3. Taking all things together how happy would you say you are these days? (HAND CARD TO RESPONDENT) Here are the choices. Please tell me the number of the one that best tells how you feel.

( ) 1 VERY HAPPY
( ) 2 QUITE HAPPY
( ) 3 FAIRLY HAPPY
( ) 4 FAIRLY UNHAPPY
( ) 5 VERY UNHAPPY

C4. Compared to your life today, how do you think things will be ten years from now -- do you think things will be happier for you than they are now, not quite as happy, or what?

( ) 1 MUCH HAPPIER
( ) 2 HAPPIER
( ) 3 THE SAME
( ) 4 LESS HAPPY
( ) 5 MUCH LESS HAPPY
( ) IT DEPENDS (ON WHAT?) ____________________

C4a. How is that?

C5. Now there's a more general question I'd like to ask. Can you tell me some of the problems boys your age worry about most?

C5a. (IF NOT MENTIONED): What things do they worry about that might happen in the future?

C5b. (IF NOT MENTIONED): What things do they worry about that are happening right now?

Now we have something a little different.

I am going to read you some descriptions of situations that come up in life. I would like you to make up a story to go along with each one. Try to imagine what is going on in each situation.

There are no right or wrong answers, so tell the story that the description suggests to you. Just make up a story, in your own words, from your first impression of what is going on in the situation. I'll be writing the story down on this sheet. (SHOW RESPONDENT CARD D1) The questions on this card will help you to tell the story. You should answer each question in your story.

Here is the first description.

INTERVIEWER:

1. READ THE DESCRIPTION AT THE TOP OF EACH PAGE.
2. HAND R THE RESPONSE CARD (D1, D2, D3) CONTAINING THE PROBES.
3. ALLOW ABOUT 20 SECONDS FOR R TO RESPOND. IF HE HAS NOT RESPONDED BY THEN, READ THE FIRST QUESTION ON THE PROBE CARD.
4. IF R HESITATES FOR MORE THAN 10 SECONDS AT ANY POINT IN TELLING THE STORY, READ THE FIRST PROBE HE HAS FAILED TO COVER.

D1. Two men in a shop working on a machine. (SHOW CARD D1)

D1a. Who are these people? What are they doing?

D1b. What has led up to this? What went on before?

D1c. What do they want? How do they feel?

D1d. What will happen? How will it end?

D2. A man working alone in his office at night. (SHOW CARD D2)

D2a. Who is this person? What is he doing?

D2b. What has led up to this? What went on before?

D2c. What does he want? How does he feel?

D2d. What will happen? How will it end?

D3. A young man talking about something important with an older man. (SHOW CARD D3)

D3a. Who are these people? What are they doing?

D3b. What has led up to this? What went on before?

D3c. What do they want? How do they feel?

D3d. What will happen? How will it end?

Now I'd like to ask about paying jobs.

E1. Are you working now?

( ) YES ( ) NO - SKIP TO QUESTION E2

(IF R WORKS AT MORE THAN TWO JOBS, LIST THE TWO HE SPENDS MOST TIME AT)

PRESENT JOB DESCRIPTION

E1a. What do you do on this job? (PROBE FOR SPECIFIC DESCRIPTION OF ACTIVITIES AND JOB LEVEL, IF POSSIBLE)		
E1b. What is the pay? (PER HOUR, WEEK, JOB, ETC.)	________ per ______ (AMOUNT)	________ per ______ (AMOUNT)
E1c. About how many hours a week do you work on this job?	____ hours per week	____ hours per week
E1d. How long have you had this job? (LIST DATE HE STARTED IF THIS IS CONVENIENT OR NUMBER OF MONTHS)		
E1e. How did you find out about this job?		
E1f. Thinking over the different things about your job -- the work, your boss, the people you work with, the pay -- how satisfied would you say you are with your job as a whole?		

E2. Have you had (other) jobs in the past?

( ) YES - I'd like you to tell me about the last three jobs you've had, starting with the last one and working back.

( ) NO - SKIP TO QUESTION E3

(ASK THE ENTIRE SEQUENCE OF QUESTIONS 2a-2f FOR THE LAST JOB, THEN REPEAT THE QUESTIONS FOR THE NEXT TO THE LAST JOB, ETC. DO THIS FOR THE RESPONDENT'S LAST THREE JOBS ONLY)

PAST JOB DESCRIPTIONS

	LAST JOB	NEXT TO LAST	JOB BEFORE THAT
E2a. What did you do on that job? (PROBE FOR SPECIFIC DESCRIPTION OF ACTIVITIES AND JOB LEVEL IF POSSIBLE)			
E2b. What was the pay on that job? (PER HOUR, WEEK, JOB, ETC.)	$ ______ per ______	$ ______ per ______	$ ______ per ______
E2c. About how many hours a week did you work on that job?	______ per week	______ per week	______ per week
E2d. How long did you have that job? (LIST DATES IF THAT IS CONVENIENT OR NUMBER OF MONTHS)	______ to ______	______ to ______	______ to ______
E2e. How did you find out about that job?			
E2f. Why did you leave that job?			

Now I'd like to ask you a few questions about money matters.

E3. First of all, thinking about this school year, how much money do you think you will get in an average week? -- think about all the money you will get, from jobs, allowance and anyplace else.

$ ______ per week

E4. Now all in all, how do you feel about the money you have -- is it enough for you, or could you use more? Pick the answer on this card which fits you best. (SHOW CARD)

( ) 1 Enough for me -- I'm completely satisfied - SKIP TO QUESTION E5
( ) 2 I could use more money, but I am happy as is.
( ) 3 Not quite enough for me -- I need a little more money.
( ) 4 Not enough for me -- I need more money.
( ) 5 Not nearly enough money -- I need much more than I have.

E4a. Can you tell me the reasons you'd like to have more money?

____

____

____

E4b. How much would you say would be enough?

USE MOST APPROPRIATE LINE

__________ per week
__________ per month
__________ lump sum
__________ other; specify

E5. Do you have any money saved?

( ) YES ( ) NO - SKIP TO QUESTION F1

E5a. About how much do you have saved? $ __________

E5b. What do you expect to use it for? ______________________________

____

Now I'd like to ask you some questions about your plans and ideas for the future.

F1. First of all, do you plan to finish high school?

( ) YES ( ) NO

F1a. Why is that? ____________________

____

____

F1b. When do you expect to leave high school?

____

(SKIP TO QUESTION F2)

F1c. How certain are you that you actually will graduate? Would you say you are (READ ALTERNATIVES BELOW):

( ) 1 CERTAIN OF GRADUATING - SKIP TO QUESTION F2
( ) 2 FAIRLY CERTAIN
( ) 3 LESS CERTAIN (CHANGES ABOUT FIFTY-FIFTY)
( ) 4 CHANGES PRETTY SLIM (MUCH LESS THAN FIFTY-FIFTY)

F1d. What might keep you from graduating?

____

____

F2. (ASK EVERYONE): Do you expect to have a part-time job anytime during the rest of your time in high school?

( ) YES ( ) NO - SKIP TO QUESTION F3

F2a. Can you tell me what sort of job you think it will be?

____

____

F3. Do you expect to have a job this coming summer?

( ) YES ( ) NO - SKIP TO QUESTION F4

F3a. Can you tell me what sort of a summer job you might get?

____

____

F4. What sort of work do you think you might do for a living?

____

____

____

( ) R DOES NOT HAVE OCCUPATIONAL PLAN(S) - ASK QUESTION F4b

( ) R MENTIONS SOME OCCUPATIONAL PLAN(S) - ASK QUESTION F4a

F4a. How do you plan to get into this sort of work?

____

____

____

(GO ON TO QUESTION F4c)

F4b. What do you think you might do after you graduate from (drop out of) high school?

____

____

____

(GO ON TO QUESTION F4c)

F4c. How likely is it that things will work out this way? (THE QUESTION REFERS TO ALL PLANS ABOVE -- ENCOURAGE R TO SPECIFY ANY AREAS OF PLANNING NOT LIKELY TO WORK OUT)

F4d. What could prevent your plans from working out?

F4e. How important do you think your high school grades are in making your plans work out? (SHOW CARD F4)

( ) 1 VERY IMPORTANT
( ) 2 QUITE IMPORTANT
( ) 3 SOMEWHAT IMPORTANT
( ) 4 NOT VERY IMPORTANT
( ) 5 NOT AT ALL IMPORTANT

F5. (ASK ONLY IF R HAS MENTIONED SOME OCCUPATIONAL PLANS): How did you become interested in the kind(s) of work we've just been talking about?

F6. Have you talked with your parents (or guardian) about what you are going to do after high school?

( ) YES ( ) NO

F6a. What do you think they want you to do after high school?

____

____

____

____

(SKIP TO QUESTION F7)

F6b. What do they want you to do after high school?

____

____

____

____

F7. Have you talked with anyone else about your plans for after high school? (IF YES, PROBE FOR A BRIEF DESCRIPTION)

____

____

____

____

F8. As you know, some people have trouble getting jobs. What do you think are the reasons some people have this trouble?

F8a. Are there any other reasons?

F9. Now on a slightly different track, let's imagine you inherited enough money so you could live comfortably for the rest of your life. What would you do?

(IF WORK NOT MENTIONED, ASK):

F9a. Do you think you would work anyway?

( ) YES
( ) NO
( ) D.K.

F9b. Why is that?

F10. The next questions are about how other people would feel if you were to do certain things:

Here is a list of people who may care a lot about what you do or don't do. (SHOW CARD F10)

How would these people feel if you were to drop out of school?

(IF R GIVES ONLY A GENERAL RESPONSE, PROBE: Would all of them feel that way?)

F10a. Would anyone else (not on the list) care much about it if you dropped out of school?

F11. How would they (the people on the list) feel if you were to get very bad grades in school?

(IF NECESSARY, PROBE: Would all of them feel that way?)

F11a. Would anyone else (not on the list) care much about it if you got bad grades in school?

BEST COPY AVAILABLE

F12. How would they (the people on the list) feel if you were to do things that might get you into trouble?

(IF NECESSARY, PROBE: Would all of them feel that way?)

F12a. Would anyone else (not on the list) care much about it if you did things that might get you into trouble?

F13. How do these people feel about whether you should go to college?

( ) NO ONE THINKS R SHOULD GO TO COLLEGE - SKIP TO NEXT SECTION
( ) R IS BEING ENCOURAGED TO GO TO COLLEGE

F13a. Well what if you decided not to go to college -- how would they feel?

(IF NECESSARY, PROBE: Would all of them feel that way?)

F13b. Would anyone else (not on the list) care much about it if you decided not to go to college?

OPTIONAL BREAK -- ASK R IF HE WOULD LIKE A FIVE MINUTE BREAK.

One of the things we're studying is the way school life fits in with the desires or needs of boys your age. The next questions each have three parts: the first part asks about some need or desire that boys your age may have; the second part asks how your school is; and the third part asks how this fits in with what you want.

(HAND CARD G1-4 TO RESPONDENT) In answering these questions, I'd like you to use the answers on this card; I'll show you how this works in just a moment.

G1. The first questions are about being independent -- that is, having a lot of freedom to decide what you will do; and not having people watching over you and telling you what to do.

G1a. Compared with other boys your age, how important is it for you to be independent? (Pick your answer from Part A on the card.)

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G1b. How much does your school give you a chance to be independent? (Pick your answer from Part B.)

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G1c. Now, how does the amount of independence you have in school fit in with what you want -- is it just about right, or not enough, or too much? (Pick your answer from Part C.)

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G2. The next questions are about spending time with friends -- being together and enjoying each other's company.

G2a. Compared with other boys your age, how important is it for you to spend time with friends?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G2b. How much does your school give you a chance to spend time with friends?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G2c. How does this (the chance for spending time with friends) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G3. The next questions are about achieving success -- doing things that are challenging; winning in competition with others; trying to reach difficult goals.

G3a. Compared with other boys your age, how important is it for you to do things where you might win or achieve success?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G3b. How much does your school give you a chance to do things where you might win or achieve success?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G3c. How does this (the chance to do things where you might win or achieve) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G4. The next questions are about getting to know adults well -- having a chance to talk to them privately and get their opinions or advice.

G4a. Compared with other boys your age, how important is it for you to get to know adults well?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G4b. How much does the school give you a chance for getting to know adults well -- like teachers, for example?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G4c. How does this (the chance for getting to know adults well) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G5. Now we have some sets of questions that are just like the ones we've been doing, except one more question is asked. We use another card for these, but it works just about the same way.

(TAKE BACK CARD G1-4 AND HAND R CARD G5-7)

People feel differently about doing things where they risk failing.

G5a. Compared with other boys your age, how important is it for you to avoid doing things where you might fail? (Pick your answer from Part A.)

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G5b. How much does your school give you a chance to do things where you might fail? (Pick your answer from Part B.)

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G5c. Now can you tell me how much your school actually requires you to do things where you might fail? (Pick your answer from Part C.)

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G5d. How does this (the opportunity or requirement for doing things where you might fail) fit in with what you want? (Pick your answer from Part D.)

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G6. The next questions are about self-improvement -- learning new things; doing better than you have been able to do in the past.

G6a. Compared with other boys your age, how important is it for you to try to improve yourself?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G6b. How much does your school give you a chance for improving yourself?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G6c. How much does your school actually require you to improve yourself?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G6d. How does this (the opportunity or requirement for improving yourself) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G7. The next questions are just a bit different. Instead of asking about improving yourself, these questions are about doing things you're already good at -- this means doing the things you have learned how to do well and enjoy doing; being able to use the skills and abilities that you already have.

G7a. Compared with other boys your age, how important is it for you to be doing things you're already good at?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G7b. How much does your school give you a chance for doing things you're already good at?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G7c. How much does your school actually require you to do things you're already good at?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G7d. How does this (the opportunity or requirement for doing things you're already good at) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G8. The next questions are about several abilities and how much you use them. We use another answer card for these questions, but it still works the same way.

(TAKE BACK CARD G5-7 AND HAND R CARD G8-10)

The first questions are about intelligence -- having a quick mind; catching on to things fast.

G8a. How intelligent do you think you are, compared with other boys your age? (Pick your answer from Part A on the card.)

( ) 1 FAR ABOVE AVERAGE (TOP 10%)
( ) 2 ABOVE AVERAGE (NEXT 15%)
( ) 3 SLIGHTLY ABOVE AVERAGE (25%)
( ) 4 SLIGHTLY BELOW AVERAGE (25%)
( ) 5 BELOW AVERAGE (NEXT LOWEST 15%)
( ) 6 FAR BELOW AVERAGE (BOTTOM 10%)

G8b. Compared with other boys your age, how important is it to you to be able to use your intelligence in school? -- how much do you enjoy using your intelligence? (Pick your answer from Part B.)

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G8c. How much does your school give you a chance for using a lot of intelligence? (Pick your answer from Part C.)

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G8d. How much does your school actually require you to use a lot of intelligence? (Pick your answer from Part D.)

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G8e. How does this (the opportunity or requirement for using a lot of intelligence in school) fit in with what you want? (Pick your answer from Part E.)

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G9. The next questions are about being a good reader -- reading quickly without making mistakes; reading difficult books.

G9a. How good a reader do you think you are, compared with other boys your age?

( ) 1 FAR ABOVE AVERAGE (TOP 10%)
( ) 2 ABOVE AVERAGE (NEXT 15%)
( ) 3 SLIGHTLY ABOVE AVERAGE (25%)
( ) 4 SLIGHTLY BELOW AVERAGE (25%)
( ) 5 BELOW AVERAGE (NEXT LOWEST 15%)
( ) 6 FAR BELOW AVERAGE (BOTTOM 10%)

G9b. Compared with other boys your age, how important is it to you to do a lot of reading -- how much do you like reading?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G9c. How much does your school give you a chance to read?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G9d. How much does your school actually require you to read?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G9e. How does this (the opportunity or requirement for reading in school) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G10. The last questions of this kind are about getting physical exercise and keeping in good condition.

G10a. Compared with other boys your age, how would you rate your physical condition (e.g., muscular development)?

( ) 1 FAR ABOVE AVERAGE (TOP 10%)
( ) 2 ABOVE AVERAGE (NEXT 15%)
( ) 3 SLIGHTLY ABOVE AVERAGE (25%)
( ) 4 SLIGHTLY BELOW AVERAGE (25%)
( ) 5 BELOW AVERAGE (NEXT LOWEST 15%)
( ) 6 FAR BELOW AVERAGE (BOTTOM 10%)

G10b. Compared with other boys your age, how important is it for you to exercise and keep in good condition?

( ) 1 MUCH MORE IMPORTANT THAN AVERAGE
( ) 2 A LITTLE MORE IMPORTANT THAN AVERAGE
( ) 3 ABOUT AVERAGE IMPORTANCE
( ) 4 A LITTLE LESS IMPORTANT THAN AVERAGE
( ) 5 MUCH LESS IMPORTANT THAN AVERAGE

G10c. How much does your school give you a chance for physical exercise?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G10d. How much does your school actually require physical exercise?

( ) 1 VERY MUCH
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 A LITTLE
( ) 5 NOT AT ALL

G10e. How does this (the opportunity or requirement for physical exercise) fit in with what you want?

( ) 1 TOO MUCH, COMPARED WITH WHAT I WANT
( ) 2 A LITTLE TOO MUCH
( ) 3 JUST ABOUT RIGHT
( ) 4 NOT QUITE ENOUGH
( ) 5 NOT ENOUGH, COMPARED WITH WHAT I WANT

G11. We have found that most of the boys we talk with have certain ways in which they want to improve. What are some of the ways you'd like to improve yourself?

INTERVIEWER LIST UP TO FIVE MENTIONS, PROBE ("ANYTHING ELSE?") ONLY ONCE:

FIRST MENTION ______________________________

SECOND MENTION ______________________________

THIRD MENTION ______________________________

FOURTH MENTION ______________________________

FIFTH MENTION ______________________________

G11a. FIRST MENTION: Are there things you will do to improve yourself in (first mention)?
(IF YES, "What are they?")

____

____

____

IF NOT ALREADY ASCERTAINED: What are you doing right now to improve in this area?

____

____

G11b. ( ) NO SECOND MENTION - SKIP TO QUESTION G12

SECOND MENTION: Are there things you will do to improve yourself in (second mention)?
(IF YES, "What are they?")

____

____

____

IF NOT ALREADY ASCERTAINED: What are you doing right now to improve in this area?

____

____

G11c.

( ) NO THIRD MENTION - SKIP TO QUESTION G12

THIRD MENTION: Are there things you will do to improve yourself in (third mention)?
(IF YES, "What are they?")

IF NOT ALREADY ASCERTAINED: What are you doing right now to improve in this area?

G11d.

( ) NO FOURTH MENTION - SKIP TO QUESTION G12

FOURTH MENTION: Are there things you will do to improve yourself in (fourth mention)?
(IF YES, "What are they?")

IF NOT ALREADY ASCERTAINED: What are you doing right now to improve in this area?

G11e.

( ) NO FIFTH MENTION - SKIP TO QUESTION G12

FIFTH MENTION: Are there things you will do to improve yourself in (fifth mention)?
(IF YES, "What are they?")

IF NOT ALREADY ASCERTAINED: What are you doing right now to improve in this area?

G12. Another thing we've been talking to boys about is what kind of things they do well and enjoy doing. What are some of the things that you are good at and like to do?

INTERVIEWER LIST UP TO FIVE MENTIONS, PROBE ("ANYTHING ELSE?") ONLY ONCE:

FIRST MENTION ______________________________

SECOND MENTION ______________________________

THIRD MENTION ______________________________

FOURTH MENTION ______________________________

FIFTH MENTION ______________________________

G12a. FIRST MENTION: How much do you get a chance for (first mention) these days? (SHOW CARD G12)

( ) 1 A LOT
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 NOT VERY MUCH
( ) 5 NOT AT ALL

When do you get a chance to do this?

____

____

Do you get enough chance to do this, or would you like to do it more?

( ) ENOUGH - SKIP TO G12b (SECOND MENTION)
( ) WOULD LIKE MORE

What keeps you from doing this as much as you'd like?

____

____

____

G12b. ( ) NO SECOND MENTION - SKIP TO QUESTION G13

SECOND MENTION: How much do you get a chance for (second mention) these days? (SHOW CARD G12)

( ) 1 A LOT
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 NOT VERY MUCH
( ) 5 NOT AT ALL

When do you get a chance to do this?

Do you get enough chance to do this, or would you like to do it more?

( ) ENOUGH - SKIP TO G12c (THIRD MENTION)
( ) WOULD LIKE MORE

What keeps you from doing this as much as you'd like?

G12c. ( ) NO THIRD MENTION - SKIP TO QUESTION G13

THIRD MENTION: How much do you get a chance for (third mention) these days? (SHOW CARD G12)

( ) 1 A LOT
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 NOT VERY MUCH
( ) 5 NOT AT ALL

When do you get a chance to do this?

Do you get enough chance to do this, or would you like to do it more?

( ) ENOUGH - SKIP TO G12d (FOURTH MENTION)
( ) WOULD LIKE MORE

What keeps you from doing this as much as you'd like?

G12d. ( ) NO FOURTH MENTION - SKIP TO QUESTION G13

FOURTH MENTION: How much do you get a chance for (fourth mention) these days? (SHOW CARD G12)

( ) 1 A LOT
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 NOT VERY MUCH
( ) 5 NOT AT ALL

When do you get a chance to do this?

Do you get enough chance to do this, or would you like to do it more?

( ) ENOUGH - SKIP TO G12e (FIFTH MENTION)
( ) WOULD LIKE MORE

What keeps you from doing this as much as you'd like?

G12e. ( ) NO FIFTH MENTION - SKIP TO QUESTION G13

FIFTH MENTION: How much do you get a chance for (fifth mention) these days? (SHOW CARD G12)

( ) 1 A LOT
( ) 2 QUITE A BIT
( ) 3 SOME
( ) 4 NOT VERY MUCH
( ) 5 NOT AT ALL

When do you get a chance to do this?

Do you get enough chance to do this, or would you like to do it more?

( ) ENOUGH - SKIP TO QUESTION G13
( ) WOULD LIKE MORE

What keeps you from doing this as much as you'd like?

G13. Now let me ask you a slightly different question. Supposing you had the chance, what things would you like most to change about yourself -- about your looks, your personality, or your life in general?

G14. If you had a son, how would you like him to be different from you?

In this interview we are interested in boys who drop out of school as well as those who stay in, so the next few questions are about dropping out.

H1. What would you say are the major reasons why boys drop out of school?

H1a. Are there any other reasons you can think of -- say, from things you've heard around school?

H2. Do you know any boys who have left school (without graduating)?

( ) YES ( ) NO - SKIP TO QUESTION H3

H2a. Why did they leave?

H3. Have you ever thought of dropping out of school?

( ) YES ( ) NO - SKIP TO QUESTION I1

↓

H3a. Do you still think of dropping out of school?

( ) YES ( ) NO - SKIP TO QUESTION H3e

↓

H3b. When do you think this will be (that you drop out)?

H3c. What reasons do you have for wanting to leave school? PROBE: Can you tell me more about it?

H3d. Is there anything that could influence you to stay in school?

(SKIP TO QUESTION I1)

H3e. What grade were you in when you first thought of leaving school?

____

H3f. What was happening then to make you feel like dropping out?

____

____

____

H3g What happened to change your mind about dropping out?

____

____

____

Now I'd like to find out a few things about yourself and your background.

I1. Could you tell me the date of your birth? ________ ____, 19__
MONTH DAY

I2. Where were you born? ________________________________
CITY STATE (COUNTRY)

I3. Are both your natural parents living?

( ) YES, BOTH LIVING
( ) NO, ONLY MOTHER LIVING
( ) NO, ONLY FATHER LIVING – SKIP TO QUESTION I3c
( ) NO, NEITHER LIVING

I3a. Do you live with your own mother and father?

( ) NO
( ) YES - SKIP TO QUESTION I4

I3b. Do they happen to be divorced or separated?

( ) YES - GO ON TO QUESTION I3c
( ) NO - GO ON TO QUESTION I3c

I3c. Who do you live with now?

( ) MOTHER AND STEPFATHER
( ) FATHER AND STEPMOTHER
( ) STEPMOTHER AND STEPFATHER
( ) MOTHER ONLY
( ) FATHER ONLY
( ) MOTHER AND OTHER PERSON(S)
( ) FATHER AND OTHER PERSON(S)
( ) OTHER (SPECIFY): ________________________

I4. Do you know where your father was born?

____
CITY STATE COUNTRY

I4a. And where was your mother born?

____
CITY STATE COUNTRY

I5. Now I'd like to ask you about your father's occupation. Is he

- ( ) WORKING NOW
- ( ) UNEMPLOYED, SICK, LAID OFF
- ( ) RETIRED
- ( ) HANDLING HIS OWN INVESTMENTS ONLY
- ( ) MEMBER OF ARMED FORCES - SKIP TO QUESTION I6
- ( ) PERMANENTLY DISABLED - SKIP TO QUESTION I6
- ( ) STUDENT - SKIP TO QUESTION I6

↳ I5a. What is (was) his main occupation? What sort of work does (did) he do?

I5b. What kind of business or industry is this?

I5c. Is this primarily:

- ( ) MANUFACTURING
- ( ) WHOLESALE TRADE
- ( ) RETAIL TRADE
- ( ) OTHER (SERVICES, AGRICULTURE, GOVERNMENT, CONSTRUCTION, ETC.)

I5d. Is (was) he:

- ( ) EMPLOYEE OF PRIVATE COMPANY, BUSINESS OR INDIVIDUAL FOR WAGES, SALARY, OR COMMISSION
- ( ) GOVERNMENT EMPLOYEE (FEDERAL, STATE, COUNTY OR LOCAL)
- ( ) SELF-EMPLOYED IN OWN BUSINESS, PROFESSIONAL PRACTICE OR FARM
- ( ) WORKING WITHOUT PAY IN A FAMILY BUSINESS OR FARM

I6. Is your mother

- ☐ WORKING NOW
- ☐ UNEMPLOYED, SICK, LAID OFF
- ☐ RETIRED
- ☐ HANDLING HER OWN INVESTMENTS ONLY
- ☐ PERMANENTLY DISABLED - SKIP TO QUESTION I7
- ☐ HOUSEWIFE - SKIP TO QUESTION I7
- ☐ STUDENT - SKIP TO QUESTION I7

I6a. What is (was) her main occupation? What sort of work does (did) she do?

____

____

____

I6b. What kind of business or industry is this?

____

____

____

I6c. Is this primarily:

- ☐ MANFACTURING
- ☐ WHOLESALE TRADE
- ☐ RETAIL TRADE
- ☐ OTHER (SERVICES, AGRICULTURE, GOVERNMENT, CONSTRUCTION, ETC.)

I6d. Is (was) she:

- ☐ EMPLOYEE OR PRIVATE COMPANY, BUSINESS OR INDIVIDUAL FOR WAGES, SALARY, OR COMMISSION
- ☐ GOVERNMENT EMPLOYEE (FEDERAL, STATE, COUNTY OR LOCAL)
- ☐ SELF-EMPLOYED IN OWN BUSINESS, PROFESSIONAL PRACTICE, OR FARM
- ☐ WORKING WITHOUT PAY IN A FAMILY BUSINESS OR FARM

I7. How many grades of school did your father complete? ____________________

I7a. Did he have any other schooling?

( ) YES - GO ON TO QUESTION I7b
( ) NO - SKIP TO QUESTION I8

I7b. What other schooling did he have? (E.G., TRADE, BUSINESS OR COLLEGE)

____

I7c. (IF COLLEGE): Does he have a college degree? (IF YES): What degree?

____

I8. How many grades of school did your mother complete? ____________________

I8a. Did she have any other schooling?

( ) YES - GO ON TO QUESTION I8b
( ) NO - SKIP TO QUESTION I9

I8b. What other schooling did she have? (E.G., TRADE, BUSINESS OR COLLEGE)

____

I8c. (IF COLLEGE): Does she have a college degree? (IF YES): What degree?

____

I9. Do you have any brothers?

( ) YES ( ) NO - SKIP TO QUESTION I10

(ASK THE FOLLOWING SET OF QUESTIONS FOR EACH BROTHER)

I9a. What is his age?

I9b. Does he live at home?

I9c. Is he still in school? In what grade?

I9d. (IF NOT IN SCHOOL): Did he drop out or graduate from high school? Did he have any further schooling? What?

I9e. Is he working now? What does he do?

I9a	I9b	I9c		I9d		I9e	
		STILL IN SCHOOL?				WORKING	
			NO				
AGE	STILL LIVING AT HOME?	YES: WHAT GRADE?	DROP OUT	GRADUATED HIGH SCHOOL	POST HIGH SCHOOL TRAINING: WHAT?	YES: AT WHAT?	NO

I10. Do you have any sisters?

( ) YES ( ) NO - SKIP TO QUESTION I11

(ASK THE FOLLOWING SET OF QUESTIONS FOR EACH SISTER)

I10a. What is her age?

I10b. Does she live at home?

I10c. Is she still in school? In what grade?

I10d. (IF NOT IN SCHOOL): Did she drop out or graduate from high school? Did she have any further schooling? What?

I10e. Is she working now? What does she do?

I10a	I10b	I10c	I10d			I10e	
AGE	STILL LIVING AT HOME?	STILL IN SCHOOL?				WORKING	
		YES: WHAT GRADE?	NO			YES: AT WHAT?	NO
			DROP OUT	GRADUATED HIGH SCHOOL	POST HIGH SCHOOL TRAINING: WHAT?		

I11. Besides those we've already talked about, is there anybody else living with your family -- say, grandparents, other relatives, friends or boarders?

( ) YES ( ) NO - SKIP TO QUESTION I12

I11a. Who is this person?

I11b. What sex is __________?

I11c. How old is __________?

I11d. How long has __________ been living with your family?

I11e. Is there anyone else living with your family?

( ) NO - SKIP TO QUESTION I12
( ) YES - ASK QUESTIONS I11a-I11e AGAIN AND LIST IN TABLE BELOW

I11a	I11b	I11c	I11d
RELATIONSHIP	SEX	AGE	HOW LONG WITH FAMILY

I12. How long have you lived here in (city or town)? ____________________

I13. Now we'd like to learn about different schools you may have gone to.

I13a. How many elementary schools have you been in? ____________________

I13b. How many junior high schools? ____________________

I13c. How many high schools? ____________________

I13d. (ASK IF R HAS ATTENDED MORE THAN ONE SCHOOL IN ANY CATEGORY): Can you tell me why you changed (elementary/junior high/high) schools?

____

I14. Have you ever gone to a school that wasn't a public school?

( ) YES ( ) NO - SKIP TO QUESTION I15

I14a. What kind of school was that?

( ) TRAINING SCHOOL (REFORMATORY)
( ) PRIVATE OR PAROCHIAL SCHOOL OR ACADEMY
( ) MILITARY SCHOOL OR ACADEMY
( ) OTHER (SPECIFY): ____________________

I15. Did you go to nursery school?

( ) YES ( ) NO

I16. Did you go to kindergarten?

( ) YES ( ) NO

I17. What program or type of curriculum are you in at school? (IF R IS UNCERTAIN, READ THE RESPONSE CATEGORIES)

( ) VOCATIONAL -- AREA: ____________________
( ) COLLEGE PREPARATORY
( ) COMMERCIAL OR BUSINESS
( ) GENERAL
( ) AGRICULTURAL
( ) OTHER (SPECIFY): ____________________

I17a. How do you happen to be in this program? (PROBE, IF NECESSARY): Why are you in this program rather than one of the others?

____

____

____

I18. Were you brought up mostly:

( ) ON A FARM
( ) IN THE COUNTRY, NOT ON A FARM
( ) IN A TOWN
( ) IN A SMALL CITY
( ) IN A LARGE CITY

As you already know from the folder we sent you, we want to mail you some results of the study, and we hope to talk with many of you again. For that reason, we'd like to have your address and other information to help us get in touch with you later.

(IF R IS RELUCTANT OR UNCOMFORTABLE ABOUT GIVING THIS INFORMATION, READ THE FOLLOWING SENTENCE)

The paper I write this on will be taken out of your interview as soon as it reaches Ann Arbor and will not be used to identify any of your answers.

Could you give me your full name?

____

What is your present address? ______________________________
STREET

____
CITY STATE

What is your telephone number? ______________________________

Do you have a social security number? ______________________________

(IF YES): What is it? ______________________________

PARAGRAPH COMPREHENSION

INTERVIEWER SAYS: "We will now go on to something a little different. Here is a paragraph which I would like you to read to yourself. Read it very carefully. When you finish reading it, tell me."

> Airplane pilots have many important jobs. They fly passengers, freight, and mail from one city to another. Sometimes they make dangerous rescues in land and sea accidents, and drop food where people or herds are starving. They bring strange animals from dense jungles to our zoos. They also serve as traffic police and spot speeding cars on highways.

WHEN R INDICATES HE IS FINISHED SAY: "Now answer each of the questions. Tell me the answers so I can write them down. You may look back at the paragraph if you wish."

1. ______________________ — 1. Whom is this paragraph about?
2. ______________________ — 2. What do they take from city to city?
3. ______________________
4. ______________________
5. ______________________ — 3. How do they save people?
6. ______________________

RECORD EACH ANSWER VERBATIM; SCORE EACH ANSWER AND RECORD TOTAL NUMBER RIGHT; FLAG THOSE WHO SCORED 1 OR 0.

QUICK TEST

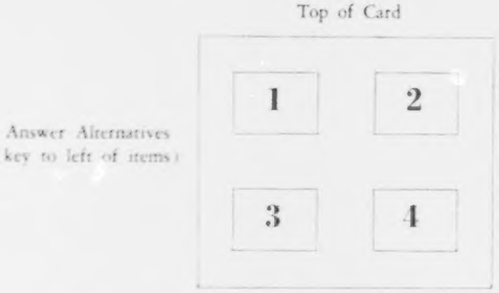
INTERVIEWER SAYS: "We are interested in boys' familiarity with many different words. In the next task I'll be asking you to identify some words with the help of a series of pictures. Do the best you can for this one.

"I am going to show you some pictures and read some words. You point to the best picture for the word I say. The words start out very easy, but will get harder and harder. Of course you won't be able to get them all. If I read a word that you don't know, just tell me you don't know it and I'll go on to the next word. Do not guess on this test; you should feel fairly sure you know the word."

QT

QUICK TEST

R. B. AMMONS AND C. H. AMMONS



FORM 1		FORM 2		FORM 3
4 belt (easy)		2 cans (easy)		2 sheet (easy)
1 dancing (easy)		3 chewing (easy)		1 exercise (easy)
4 traffic (easy)		4 falling (easy)		2 machine (easy)
4 whistle (easy)		3 dinner (easy)		4 burners (easy)
3 fence (easy)	5	1 cow (easy)	5	1 audience (easy)
2 drink (easy)		2 groceries (easy)		3 dish (easy)
3 wreck (easy)		4 hat (easy)		2 drying (easy)
1 music (easy)		3 sitting (easy)		3 food (easy)
2 medicine (easy)		1 country (easy)		3 fork (easy)
4 gun (easy)	10	4 danger (easy)	10	1 crowd (easy)
2 pepper (easy)		3 plate (easy)		3 slice (easy)
3 racing (easy)		1 river (easy)		2 washing (easy)
2 salt (easy)		3 tasting (easy)		4 tears (easy)
1 woman (easy)		2 shelves (easy)		1 fighting (easy)
2 sugar (easy)	15	1 sky (easy)	15	4 kitchen (easy)
3 track (easy)		3 table (easy)		3 tasty (easy)
4 school (6)		4 carelessness (6)		2 windy (6)
1 partner (6)		3 manners (6)		4 pitiful (6)
1 couples (7)		2 adding (7)		1 contest (7)
3 rail (7)	20	4 injury (7)	20	4 sorrow (8)
4 respectful (8)		2 merchandise (8)		1 loser (7)
3 betting (8)		3 waitress (8)		4 heartbreak (8)
3 daring (9)		1 horizon (9)		1 struggle (9)
3 stadium (9)		2 retail (9)		2 rotary (10)
4 pedestrian (10)	25	1 irrigation (10)	25	1 opponents (9)
1 graceful (10)		4 unaware (10)		4 grief (10)
2 fluid (11)		1 current (11)		3 utensils (11)
2 solution (11)		1 fertile (11)		2 lever (11)
4 discipline (12)		4 descending (12)		3 portion (12)
3 bleachers (12)	30	1 spacious (12)	30	3 edible (12)
2 crystallized (13)		2 proprietor (13)		1 exhibition (13)
1 turntable (13)		4 inattentive (13)		4 soothed (13)
2 saccharin (14)		3 indulging (14)		4 caress (14)
4 immature (14)		1 precipitation (14)		1 combatant (14)
1 cordiality (15)	35	1 freshet (15)	35	4 forlorn (15)
3 velocity (15)		4 transom (15)		3 nutrient (15)
4 decisive (16)		3 consumption (16)		4 solace (16)
3 laceration (16)		1 aquatic (16)		1 pacify (16)
3 foliage (17)		4 perilous (17)		1 contorted (17)
4 imperative (17)	40	1 terrain (17)	40	4 jets (17)
1 intimacy (18)		4 imminent (18)		4 doleful (18)
2 concoction (18)		2 foresight (18)		3 tines (18+)
1 convivialists (18+)		1 condensation (18+)		4 disconsolate (18)
4 chevrons (18+)		3 satiation (hard)		3 sustenance (18+)
2 condiment (hard)	45	3 visceral (hard)	45	4 maudlin (hard)
3 cacophony (hard)		1 bovine (18+)		3 gustatory (hard)
2 miscible (hard)		3 replete (hard)		4 poignant (hard)
2 imbibe (hard)		3 prehension (hard)		1 bellicose (hard)
1 amicable (hard)		4 ingress (hard)		3 comestible (hard)
2 pungent (hard)	50	3 celerity (hard)	50	4 despondency (hard)

Score ____________ ____________ ____________

© 1962 Psychological Test Specialists

BEST COPY AVAILABLE

(BY OBSERVATION)

POST-INTERVIEW INFORMATION

The following questions are to be answered by the interviewer immediately after the interview.

1. Race of respondent:

( ) WHITE
( ) NEGRO
( ) OTHER (SPECIFY): ______

2. Respondent's degree of cooperation:

( ) EXCELLENT
( ) GOOD
( ) FAIR
( ) POOR

3. Was anyone else present during the interview?

( ) YES ( ) NO - SKIP TO QUESTION 4

a. Who? (Approximate age of person, sex, and relationship to respondent.)

______

b. For how long was this person present?

______

4. Rate respondent's general appearance (take into account his physical appearance, grooming and dress).

( ) EXCELLENT (UNUSUALLY GOOD)
( ) GOOD
( ) FAIR
( ) POOR

5. Rate respondent's complexion:

( ) GOOD
( ) FAIR
( ) POOR (SEVERE SKIN PROBLEM)

6. Rate respondent's overall physical maturity (take into account degree of voice change, heaviness of beard, body development, etc.).

( ) QUITE PHYSICALLY MATURE
( ) AVERAGE PHYSICAL MATURITY
( ) PHYSICALLY IMMATURE

7. Note below any unusual problem in this interview.

____

____

____

____

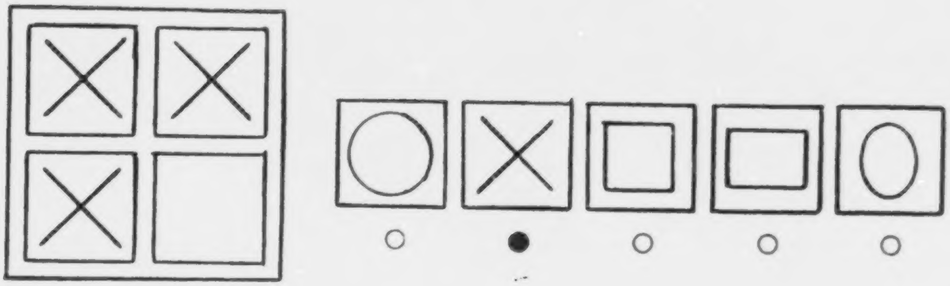
____

____

Appendix B

EXAMPLE OF MATRIX PROBLEM

MATRICES*



---

*Instructions: (Read aloud by interviewer.)

You can see that there is an empty square in this group of four squares. The task is to pick out the correct answer from the five choices here (pointing) on the right. This one has been filled in for you. The answer is in the second square. It is correct because there are three X's and the fourth X completes the pattern here (point). Note that the small circle under the X has been filled in. You are to mark your answers in the same way.

ⓒ United States Employment Service
Reprinted with the permission
of the publisher.

Appendix C
QUESTIONNAIRE

Your code number: ________

A NATIONWIDE STUDY OF YOUNG MEN

IN HIGH SCHOOL

QUESTIONNAIRE

This questionnaire is part of a nationwide study of more than three thousand boys in high schools throughout the United States.

All your answers in this questionnaire will be kept *strictly confidential.* No one will ever see them except the research staff at The University of Michigan.

It is very important that you answer the questions as accurately as you can. The success of the study depends on this.

INSTRUCTIONS

1. Please answer all questions in order.
2. Most questions need only a check mark (✓) to answer.
3. Please disregard the number in parentheses. They are to help us punch your answers onto IBM cards.
4. This is *not* a test, but you should work as quickly as you can.
5. There are five parts to the questionnaire. Parts A, B, C, and D are in this booklet. Part E is in a separate booklet.
6. Most boys find this questionnaire very interesting and enjoy filling it out: we hope you will too. Thank you again for being an important part of this research project.

SURVEY RESEARCH CENTER
UNIVERSITY OF MICHIGAN

BEST COPY AVAILABLE

PART A

This part of the questionnaire asks you to describe the kind of person you are. Please read each sentence, then mark the box that shows how often it is true for you:

(CHECK ONE BOX ON EACH LINE)

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(1:16)	1.	I am a useful guy to have around.	☐	☐	☐	☐	☐
(1:17)	2.	I demand freedom and independence above everything.	☐	☐	☐	☐	☐
(1:18)	3.	When I have mastered something, I look for opportunities to do it.	☐	☐	☐	☐	☐
(1:19)	4.	I complain about my sufferings and hardships.	☐	☐	☐	☐	☐
(1:20)	5.	I feel that I'm a person of worth, at least on an equal plane with others	☐	☐	☐	☐	☐
(1:21)	6.	I get angry and smash things.	☐	☐	☐	☐	☐
(1:22)	7.	I try to stay out of situations where I don't see any chance for progress or advancement.	☐	☐	☐	☐	☐
(1:23)	8.	I am discouraged when things go wrong	☐	☐	☐	☐	☐
(1:24)	9.	I feel that I have a number of good qualities	☐	☐	☐	☐	☐
(1:25)	10.	I become stubborn when others try to force me to do something	☐	☐	☐	☐	☐
(1:26)	11.	When I have a problem, I try to get help from others.	☐	☐	☐	☐	☐
(1:27)	12.	When the work I'm doing doesn't give me the chance to do the things I'm good at, I am dissatisfied	☐	☐	☐	☐	☐
(1:28)	13.	I feel that I can't do anything right	☐	☐	☐	☐	☐
(1:29)	14.	I like to be on my own and be my own boss	☐	☐	☐	☐	☐
(1:30)	15.	As a person I do a good job these days.	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(1:31)	16.	I argue against people who try to boss me around.	☐	☐	☐	☐	☐
(1:32)	17.	When I am learning something new, I like to set a goal for myself and try to reach it.	☐	☐	☐	☐	☐
(1:33)	18.	I feel like swearing.	☐	☐	☐	☐	☐
(1:34)	19.	I am able to do things as well as most other people . . .	☐	☐	☐	☐	☐
(1:35)	20.	I feel like smiling	☐	☐	☐	☐	☐
(1:36)	21.	I feel like losing my temper at my teachers	☐	☐	☐	☐	☐
(1:37)	22.	I would be unhappy in a job that didn't ask much of me. .	☐	☐	☐	☐	☐
(1:38)	23.	No one cares what happens, when you get right down to it.	☐	☐	☐	☐	☐
(1:39)	24.	I feel I do not have much to be proud of.	☐	☐	☐	☐	☐
(1:40)	25.	One of my goals in life is to be free of the control of others.	☐	☐	☐	☐	☐
(1:41)	26.	I look for opportunities to better myself	☐	☐	☐	☐	☐
(1:42)	27.	I feel jittery.	☐	☐	☐	☐	☐
(1:43)	28.	I generally feel in good spirits.	☐	☐	☐	☐	☐
(1:44)	29.	I take a positive attitude toward myself.	☐	☐	☐	☐	☐
(1:45)	30.	I wish I had more chance to use some of my skills	☐	☐	☐	☐	☐
(1:46)	31.	The life of the average man is getting worse, not better.	☐	☐	☐	☐	☐
(1:47)	32.	I like to have people to lean on when things go badly for me.	☐	☐	☐	☐	☐
(1:48)	33.	I feel tense.	☐	☐	☐	☐	☐
(1:49)	34.	When I feel I'm not making any progress toward what I'm aiming for, I try twice as hard	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(1:50)	35.	I feel happy	☐	☐	☐	☐	☐
(1:51)	36.	People don't really care what happens to the next fellow.	☐	☐	☐	☐	☐
(1:52)	37.	I lose my temper easily	☐	☐	☐	☐	☐
(1:53)	38.	I believe the more you succeed, the more you should try	☐	☐	☐	☐	☐
(1:54)	39.	Sometimes I think I am no good at all	☐	☐	☐	☐	☐
(1:55)	40.	I am usually patient with others	☐	☐	☐	☐	☐
(1:56)	41.	I get the feeling that life is not very useful	☐	☐	☐	☐	☐
(1:57)	42.	I worry about whether my body is growing the way it should	☐	☐	☐	☐	☐
(1:58)	43.	The job I would like to have is one where I am doing what I'm good at	☐	☐	☐	☐	☐
(1:59)	44.	I feel I do a good job as a student	☐	☐	☐	☐	☐
(1:60)	45.	These days I get the feeling that I'm just not a part of things	☐	☐	☐	☐	☐
(1:61)	46.	If someone doesn't treat me right, it annoys me	☐	☐	☐	☐	☐
(1:62)	47.	I get no sense of accomplishment from just keeping up the same level of performance	☐	☐	☐	☐	☐
(1:63)	48.	When I do a job, I do it well	☐	☐	☐	☐	☐
(1:64)	49.	I get irritated a lot more than people know about	☐	☐	☐	☐	☐
(1:65)	50.	I don't like to see somebody who used to be a good athlete and has just let himself go	☐	☐	☐	☐	☐
(1:66)	51.	I am very satisfied with life	☐	☐	☐	☐	☐
(1:67)	52.	My opinion of myself tends to change a good deal, instead of always remaining the same	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(1:68)	53.	These days I don't know who I can depend on	☐	☐	☐	☐	☐
(1:69)	54.	I carry a chip on my shoulder	☐	☐	☐	☐	☐
(1:70)	55.	When I have reached a certain level in anything I do, I set myself a higher level and try to reach it	☐	☐	☐	☐	☐
(1:71)	56.	Although I don't show it, I am very jealous	☐	☐	☐	☐	☐
(1:72)	57.	I find that on one day I have one opinion of myself and on another day I have a different opinion	☐	☐	☐	☐	☐
(1:73)	58.	Even small things irritate me	☐	☐	☐	☐	☐
(1:74)	59.	I worry about what other people think of me	☐	☐	☐	☐	☐
(1:75)	60.	When I have reached a certain level in anything I do, I try to keep in practice and not fall down on it	☐	☐	☐	☐	☐
(1:76)	61.	I feel like a powder keg ready to explode	☐	☐	☐	☐	☐
(1:77)	62.	I change from a very good opinion of myself to a very poor opinion of myself.	☐	☐	☐	☐	☐
(1:78)	63.	I feel that my life is not very useful.	☐	☐	☐	☐	☐
(1:79)	64.	I would be unhappy in a job where I didn't grow and develop	☐	☐	☐	☐	☐
(1:80)	65.	I find a good deal of happiness in life	☐	☐	☐	☐	☐
(2:16)	66.	I have noticed that my ideas about myself seem to change very quickly.	☐	☐	☐	☐	☐
(2:17)	67.	When I am in bed at night trying to go to sleep, I find that I am worrying about something.	☐	☐	☐	☐	☐
(2:18)	68.	These days I am quite relaxed	☐	☐	☐	☐	☐
(2:19)	69.	It upsets me when I get worse at something I was once good at	☐	☐	☐	☐	☐
(2:20)	70.	I feel the future looks bright.	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(2:21)	71.	I feel that nothing can change the opinion I currently hold of myself.	☐	☐	☐	☐	☐
(2:22)	72.	I am likely to hold a grudge.	☐	☐	☐	☐	☐
(2:23)	73.	I feel that nobody wants me	☐	☐	☐	☐	☐
(2:24)	74.	In sports, I try to improve my skill, rather than just having a good time.	☐	☐	☐	☐	☐
(2:25)	75.	When I look back on what's happened to me, I feel cheated	☐	☐	☐	☐	☐
(2:26)	76.	I don't seem to get what is coming to me.	☐	☐	☐	☐	☐
(2:27)	77.	I am worried.	☐	☐	☐	☐	☐
(2:28)	78.	I feel I get a raw deal out of life	☐	☐	☐	☐	☐
(2:29)	79.	I don't like to have the feeling I'm just standing still.	☐	☐	☐	☐	☐
(2:30)	80.	I think I worry more than other students my age	☐	☐	☐	☐	☐
(2:31)	81.	I feel like being a little rude to my teachers.	☐	☐	☐	☐	☐
(2:32)	82.	I feel lonesome	☐	☐	☐	☐	☐
(2:33)	83.	If I let people see the way I really feel, they would think I was hard to get along with.	☐	☐	☐	☐	☐
(2:34)	84.	I would like to be in a job where I can learn new things.	☐	☐	☐	☐	☐
(2:35)	85.	Other people always seem to get the breaks.	☐	☐	☐	☐	☐
(2:36)	86.	I feel bad about my mistakes.	☐	☐	☐	☐	☐
(2:37)	87.	I worry that I might get hurt in some accident.	☐	☐	☐	☐	☐
(2:38)	88.	Things seem hopeless.	☐	☐	☐	☐	☐
(2:39)	89.	I feel bored.	☐	☐	☐	☐	☐
(2:40)	90.	These days my parents really help out; they don't let me down.	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(2:41)	91.	I am a little rude to my teachers	☐	☐	☐	☐	☐
(2:42)	92.	I feel nervous	☐	☐	☐	☐	☐
(2:43)	93.	I feel down in the dumps	☐	☐	☐	☐	☐
(2:44)	94.	If I were aiming high and then had to settle for second choice, that would really bother me	☐	☐	☐	☐	☐
(2:45)	95.	Without knowing why, I get a funny feeling in my stomach.	☐	☐	☐	☐	☐
(2:46)	96.	I feel depressed	☐	☐	☐	☐	☐
(2:47)	97.	I feel like picking a fight or arguing with my parents.	☐	☐	☐	☐	☐
(2:48)	98.	It is hardly fair to bring a child into the world the way things look now	☐	☐	☐	☐	☐
(2:49)	99.	I am afraid that if I don't keep in practice I will lose my skills	☐	☐	☐	☐	☐
(2:50)	100.	I tell my friends about my problems and troubles.	☐	☐	☐	☐	☐
(2:51)	101.	I feel loved	☐	☐	☐	☐	☐
(2:52)	102.	I blame myself when things go wrong	☐	☐	☐	☐	☐
(2:53)	103.	I do things that I feel guilty about afterwards	☐	☐	☐	☐	☐
(2:54)	104.	If I had to lower my goals because I just couldn't make it, that would really hurt	☐	☐	☐	☐	☐
(2:55)	105.	When I do wrong, my conscience punishes me	☐	☐	☐	☐	☐
(2:56)	106.	I get the feeling that something bad is going to happen to me	☐	☐	☐	☐	☐
(2:57)	107.	I feel no one really cares much about what happens to me.	☐	☐	☐	☐	☐
(2:58)	108.	I do things that make me feel sorry afterwards	☐	☐	☐	☐	☐
(2:59)	109.	I don't admire the athlete who breaks training	☐	☐	☐	☐	☐

			Almost always true (1)	Often true (2)	Sometimes true (3)	Seldom true (4)	Never true (5)
(2:60)	110.	I feel sad.	☐	☐	☐	☐	☐
(2:61)	111.	I am bothered by noise.	☐	☐	☐	☐	☐
(2:62)	112.	I go my own way in spite of what others think	☐	☐	☐	☐	☐
(2:63)	113.	I lose my temper at my teachers	☐	☐	☐	☐	☐
(2:64)	114.	Instead of insisting on my own way, I accept suggestions from others	☐	☐	☐	☐	☐
(2:65)	115.	I'd like to bring my usual performance in line with the best I've ever done	☐	☐	☐	☐	☐

The next questions also ask you to describe the kind of person you are. Please read each sentence, then mark the box to show whether it is true or false for you:

(CHECK ONE BOX ON EACH LINE)

True (1) False (2)

(3:16) 116. I am known as a hard and steady worker . . . . ☐ ☐

(3:17) 117. No matter who I'm talking to, I'm always a good listener . . . . . ☐ ☐

(3:18) 118. I never hesitate to go out of my way to help someone in trouble. . ☐ ☐

(3:19) 119. I often wish people would be more definite about things. . . . . . ☐ ☐

(3:20) 120. It is sometimes hard for me to go on with my work if I am not encouraged . . . . ☐ ☐

(3:21) 121. While taking an important examination, I perspire a great deal . . ☐ ☐

(3:22) 122. I have never intensely disliked anyone . . . . ☐ ☐

(3:23) 123. I often start things I never finish. . . . . ☐ ☐

(3:24) 124. On occasion I have had doubts about my ability to succeed in life. ☐ ☐

(3:25) 125. I get to feel very panicky when I have to take a surprise exam . . ☐ ☐

(3:26) 126. I sometimes feel resentful when I don't get my way . . . . ☐ ☐

(3:27) 127. I never make judgments about people until I'm sure of the facts. . ☐ ☐

(3:28) 128. I am always careful about my manner of dress . . . . ☐ ☐

(3:29) 129. During tests, I find myself thinking about what it would mean to fail . . . . ☐ ☐

(3:30) 130. My table manners at home are as good as when I eat out in a restaurant . . . . ☐ ☐

(3:31) 131. A strong person will be able to make up his mind even on the most difficult questions. . . . . ☐ ☐

(3:32) 132. If I could get into a movie without paying and be sure I was not seen, I would probably do it . . . . ☐ ☐

(3:33) 133. After important tests, I am frequently so tense that my stomach gets upset . . . . ☐ ☐

(3:34) 134. On a few occasions, I have given up doing something because I thought too little of my ability . . . . ☐ ☐

			True (1)	False (2)
(3:35)	135.	For most questions there is just one right answer, once a person is able to get all the facts	☐	☐
(3:36)	136.	I like to gossip at times.	☐	☐
(3:37)	137.	While taking an important exam, I find myself thinking about how much smarter the other students are than I am.	☐	☐
(3:38)	138.	There have been times when I felt like rebelling against people in authority even though I knew they were right	☐	☐
(3:39)	139.	I like to have a place for everything and everything in its place.	☐	☐
(3:40)	140.	I can remember "playing sick" to get out of something.	☐	☐
(3:41)	141.	I freeze up on things like intelligence tests and final exams.	☐	☐
(3:42)	142.	There have been occasions when I took advantage of someone	☐	☐
(3:43)	143.	It bothers me when something unexpected interrupts my daily routine.	☐	☐
(3:44)	144.	I'm always willing to admit it when I make a mistake	☐	☐
(3:45)	145.	If I were to take an intelligence test, I would worry a great deal before taking it	☐	☐
(3:46)	146.	I always try to practice what I preach	☐	☐
(3:47)	147.	Most of the arguments or quarrels I get into are over matters of principle.	☐	☐
(3:48)	148.	I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.	☐	☐
(3:49)	149.	During final exams, I find myself thinking of things that have nothing to do with actual course material.	☐	☐
(3:50)	150.	I sometimes try to get even, rather than forgive and forget.	☐	☐
(3:51)	151.	I don't like things to be uncertain and unpredictable.	☐	☐
(3:52)	152.	When I don't know something, I don't mind admitting it	☐	☐
(3:53)	153.	During a final exam, I often get so nervous that I forget facts that I really know	☐	☐

			True (1)	False (2)
(3:54)	154.	I am always courteous, even to people who are disagreeable	☐	☐
(3:55)	155.	Once I have made my mind up I seldom change it	☐	☐
(3:56)	156.	At times I have really insisted on having things my own way. . . .	☐	☐
(3:57)	157.	If I knew I was going to take an intelligence test, I would feel confident and relaxed beforehand	☐	☐
(3:58)	158.	There have been occasions when I felt like smashing things	☐	☐
(3:59)	159.	I think I am stricter about right and wrong than most people . . .	☐	☐
(3:60)	160.	I would never think of letting someone else be punished for my wrongdoings.	☐	☐
(3:61)	161.	I usually get depressed after taking a test.	☐	☐
(3:62)	162.	I never resent being asked to return a favor	☐	☐
(3:63)	163.	I am in favor of a very strict enforcement of all laws, no matter what the consequences.	☐	☐
(3:64)	164.	I have never been irked when people expressed ideas very different from my own.	☐	☐
(3:65)	165.	I have an uneasy, upset feeling before taking a final exam	☐	☐
(3:66)	166.	There have been times when I was quite jealous of the good fortune of others.	☐	☐
(3:67)	167.	I always see to it that my work is carefully planned and organized.	☐	☐
(3:68)	168.	I have almost never felt the urge to tell someone off.	☐	☐
(3:69)	169.	When taking a test, my emotional feelings do not interfere with my performance.	☐	☐
(3:70)	170.	I am sometimes irritated by people who ask favors of me.	☐	☐
(3:71)	171.	The trouble with many people is that they don't take things seriously enough	☐	☐
(3:72)	172.	I have never felt that I was punished without cause.	☐	☐

			True (1)	False (2)
(3:73)	173.	Getting a good grade on one test doesn't seem to increase my confidence on the second	☐	☐
(3:74)	174.	I sometimes think when people have a misfortune they only got what they deserved.	☐	☐
(3:75)	175.	I set a high standard for myself and I feel others should do the same	☐	☐
(3:76)	176.	I have never deliberately said something that hurt someone's feelings	☐	☐
(3:77)	177.	After taking a test, I always feel that I could have done better than I actually did.	☐	☐
(3:78)	178.	People who seem unsure and uncertain about things make me feel uncomfortable.	☐	☐
(3:79)	179.	I sometimes feel my heart beating very fast during important tests.	☐	☐

PART B

This set of questions is about your school, your teachers, your classes, and the way you feel about them.

First we'd like to know which people have a lot to say about how things are run in your school. We'd like to know what you think, even if you're not sure of all your answers.

		Little or no influence (1)	Some influence (2)	Moderate influence (3)	Considerable influence (4)	A great deal of influence (5)
	1. In general, how much say or influence do you feel each of the following has on *how your school is run?* (CHECK ONE BOX ON EACH LINE)					
(4:16)	a. The principal	☐	☐	☐	☐	☐
(4:17)	b. The teachers.	☐	☐	☐	☐	☐
(4:18)	c. The students.	☐	☐	☐	☐	☐
(4:19)	d. Parents of students	☐	☐	☐	☐	☐
	2. How much say or influence do you feel each of the following has in *making up and carrying out rules about student conduct?* (CHECK ONE BOX ON EACH LINE)					
(4:20)	a. The principal	☐	☐	☐	☐	☐
(4:21)	b. The teachers.	☐	☐	☐	☐	☐
(4:22)	c. The students.	☐	☐	☐	☐	☐
(4:23)	d. Parents of students	☐	☐	☐	☐	☐
	3. How much say or influence do you feel each of the following has over *student clubs and social events* at your school? (CHECK ONE BOX ON EACH LINE)					
(4:24)	a. The principal	☐	☐	☐	☐	☐
(4:25)	b. The teachers.	☐	☐	☐	☐	☐
(4:26)	c. The students.	☐	☐	☐	☐	☐
(4:27)	d. Parents of students	☐	☐	☐	☐	☐

Now that we've asked about the way things actually seem to be at your school, we'd like to know how you think they *should* be. So the next questions are about how you'd like to see things run *ideally*.

		Little or no influence (1)	Some influence (2)	Moderate influence (3)	Considerable influence (4)	A great deal of influence (5)
	4. Ideally, how much say or influence do you feel each of the following *should have* on *how your school is run?* (CHECK ONE BOX ON EACH LINE)					
(4:28)	a. The principal	☐	☐	☐	☐	☐
(4:29)	b. The teachers	☐	☐	☐	☐	☐
(4:30)	c. The students	☐	☐	☐	☐	☐
(4:31)	d. Parents of students	☐	☐	☐	☐	☐
	5. Ideally, how much say or influence do you feel each of the following *should have* in *making up and carrying out rules about student conduct*? (CHECK ONE BOX ON EACH LINE)					
(4:32)	a. The principal	☐	☐	☐	☐	☐
(4:33)	b. The teachers	☐	☐	☐	☐	☐
(4:34)	c. The students	☐	☐	☐	☐	☐
(4:35)	d. Parents of students	☐	☐	☐	☐	☐
	6. Ideally, how much say or influence do you feel each of the following *should have* over *student clubs and social events* at your school? (CHECK ONE BOX ON EACH LINE)					
(4:36)	a. The principal	☐	☐	☐	☐	☐
(4:37)	b. The teachers	☐	☐	☐	☐	☐
(4:38)	c. The students	☐	☐	☐	☐	☐
(4:39)	d. Parents of students	☐	☐	☐	☐	☐

(CHECK ONE BOX FOR EACH QUESTION)

(4:40) 7. Suppose your school were run just the way *you* would like it to be *ideally* -- do you think your teachers would like it much?

☐ (1) They would like it much better than the way things are
☐ (2) A little better
☐ (3) About the same
☐ (4) A little less
☐ (5) They would like it much less than the way things are.

The next questions are about the way you and your teachers get along with each other.

(4:41) 8. Do many of your teachers seem to take a personal interest in you?

☐ (1) All of my teachers take a personal interest in me
☐ (2) Most of my teachers take a personal interest in me
☐ (3) Some of my teachers take a personal interest in me
☐ (4) A few of my teachers take a personal interest in me
☐ (5) None of my teachers take a personal interest in me

(4:42) 9. How often do you talk privately with any of your teachers *about school work* (even if it is just for a few minutes)?

☐ (1) Nearly every day
☐ (2) About once or twice a week
☐ (3) About once or twice a month
☐ (4) Once or twice a term
☐ (5) Never

(4:43) 10. How often do you have a private talk with any of your teachers about *other things* than school work?

☐ (1) Nearly every day
☐ (2) About once or twice a week
☐ (3) About once or twice a month
☐ (4) Once or twice a term
☐ (5) Never

(4:44) 11. When you talk privately with a teacher, how often is it the teacher's idea to have the talk?

- ☐ (1) It is always the teacher's idea
- ☐ (2) It is usually the teacher's idea
- ☐ (3) It is the teacher's idea about half of the time
- ☐ (4) It is usually my idea
- ☐ (5) It is always my idea

(4:45) 12. Do most of your teachers give you positive suggestions about your school work, or just make negative criticisms?

- ☐ (1) They almost always just make negative criticisms
- ☐ (2) They usually just make negative criticisms
- ☐ (3) They sometimes give positive suggestions, sometimes negative criticisms
- ☐ (4) They usually give positive suggestions
- ☐ (5) They almost always make positive suggestions

(4:46) 13. How often do the students in your school get a chance to work with teachers in planning what their school work will be -- like what topics will be studied, or how they will be studied?

- ☐ (1) Almost always
- ☐ (2) Often
- ☐ (3) Sometimes
- ☐ (4) Seldom
- ☐ (5) Never

(4:47) 14. Would you like a chance to do *more* of this?

- ☐ (1) Yes
- ☐ (2) No

(4:48) 15. Sometimes students get a chance to make their own choice of assignments or topics in their school work -- like picking out a book for a report or selecting a project for a class. How often do you get a chance to make your own choices like that?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:49) 16. Would you like a chance to do more of this?

☐ (1) Yes
☐ (2) No

(4:50) 17. How often are teachers at this school friendly and easy to approach?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:51) 18. How often do your teachers like students to exchange opinions and ideas in class?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:52) 19. How often do teachers at this school lose their tempers?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:53) 20. How often can your teachers get the best from students without nagging or threatening?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:54) 21. How often do teachers at this school "talk down" to students, and act as if students don't know anything?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:55) 22. How often are your teachers willing to listen to problems and help find solutions?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:56) 23. How often do teachers at this school like students to get together and help each other with homework?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:57) 24. How often do teachers here encourage extra effort from students?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:58) 25. How often do teachers at this school ask students to work together on things in groups or as a team?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(4:59) 26. How many teachers here seem excited about their work, and really seem to enjoy teaching?

☐ (1) Nearly all of the teachers
☐ (2) Most of them
☐ (3) Some of them
☐ (4) A few of them
☐ (5) None of them

(4:60) 27. How many teachers at this school really know their subjects very well?

☐ (1) Nearly all of the teachers
☐ (2) Most of them
☐ (3) Some of them
☐ (4) A few of them
☐ (5) None of them

(4:61) 28. How interesting are most of your courses *to you*?

☐ (1) Very exciting and stimulating
☐ (2) Quite interesting
☐ (3) Fairly interesting
☐ (4) Slightly dull
☐ (5) Very dull

(4:62) 29. Outside of homework how often do you have discussions with friends about ideas that come up in your courses?

☐ (1) Several times a day
☐ (2) About once a day
☐ (3) About once or twice a week
☐ (4) About once or twice a month
☐ (5) Never

(4:63) 30. How often are you interested enough to do more reading or other work than the course requires?

☐ (1) Most of the time
☐ (2) Often
☐ (3) Sometimes
☐ (4) Hardly ever
☐ (5) Never

The next questions ask for your own feelings about school. Please read each of the statements in the list. Then go to the four boxes on the right and put a check in the box that tells how you feel about the thing on the list.
(CHECK ONE BOX ON EACH LINE)

			I feel this way:			
			Very much (1)	Pretty much (2)	A little (3)	Not at all (4)
(4:64)	31.	Instead of being in this school, I wish I were out working.	☐	☐	☐	☐
(4:65)	32.	Maybe I won't get anything out of school but I have nothing to lose	☐	☐	☐	☐
(4:66)	33.	I feel satisfied with school because I learn more about things I want to know about	☐	☐	☐	☐
(4:67)	34.	Education has a high value because knowing a lot is important to me	☐	☐	☐	☐
(4:68)	35.	I think this school is a real chance for me; it can make a real difference in my life.	☐	☐	☐	☐
(4:69)	36.	Even if I could get a very good job at present, I'd still choose to stay in school and get my education	☐	☐	☐	☐
(4:70)	37.	I have put a great deal of myself into some things at school because they have special meaning or interest for me	☐	☐	☐	☐
(4:71)	38.	I enjoy school because it gives me a chance to learn many interesting things.	☐	☐	☐	☐
(4:72)	39.	There is no real value in getting an education unless it helps you get ahead in life	☐	☐	☐	☐
(5:16)	40.	School gives me a chance to be with people my own age and do a lot of things that are fun.	☐	☐	☐	☐
(5:17)	41.	I think school is important, not only for the practical value, but because learning itself is very worthwhile	☐	☐	☐	☐
(5:18)	42.	A high school diploma is the only way to get ahead.	☐	☐	☐	☐
(5:19)	43.	School is very boring for me, and I'm not learning what I feel is important	☐	☐	☐	☐

			I feel this way:			
			Very much (1)	Pretty much (2)	A little (3)	Not at all (4)
(5:20)	44.	If I could get the job I wanted, I'd quit school without hesitating.	☐	☐	☐	☐
(5:21)	45.	A real education comes from your own experience and not from the things you learn in school	☐	☐	☐	☐
(5:22)	46.	All people should have at least a high school education . .	☐	☐	☐	☐
(5:23)	47.	I enjoy being in school because I feel I'm doing something that is really worthwhile	☐	☐	☐	☐
(5:24)	48.	An education is a worthwhile thing in life, even if it doesn't help you get a job	☐	☐	☐	☐
(5:25)	49.	Practical situations teach me more about solving problems than school does.	☐	☐	☐	☐
(5:26)	50.	I like school because I am improving my ability to think and solve problems.	☐	☐	☐	☐
(5:27)	51.	I am in school in order to get a job; I don't need the education and training.	☐	☐	☐	☐
(5:28)	52.	I believe an education will help me to be a mature adult. .	☐	☐	☐	☐
(5:29)	53.	I can satisfy my curiosity better by the things I learn outside of school than by the things I learn here at school. .	☐	☐	☐	☐
(5:30)	54.	I like school because I am learning the things I will need to know to be a good citizen.	☐	☐	☐	☐
(5:31)	55.	I feel I can learn more from a very good job than I can here at school.	☐	☐	☐	☐
(5:32)	56.	School is satisfying to me because it gives me a sense of accomplishment.	☐	☐	☐	☐
(5:33)	57.	I feel the things I do at school waste my time more than the things I do outside of school	☐	☐	☐	☐

We are interested in reasons people have for dropping out of school. In the list below, we've written some of the reasons people drop out. Please read each reason in the list, then put a check in the box that tells what you would do if this happened to you.
(CHECK ONE BOX ON EACH LINE)

			If this happened:		
			I would probably quit (1)	I might quit (2)	I am sure I would stay (3)
(5:34)	58.	If I had a lot of trouble learning what they were trying to teach me.	☐	☐	☐
(5:35)	59.	If the classes were really dull and boring	☐	☐	☐
(5:36)	60.	If they tried to boss me around too much and tell me what to do.	☐	☐	☐
(5:37)	61.	If I weren't learning anything (new)	☐	☐	☐
(5:38)	62.	If I could get a good job.	☐	☐	☐
(5:39)	63.	If I couldn't manage on the money I got each week. If I couldn't make ends meet.	☐	☐	☐
(5:40)	64.	If I never got a chance to do things I like.	☐	☐	☐
(5:41)	65.	If I had no close friends in this school	☐	☐	☐
(5:42)	66.	If all my friends quit school.	☐	☐	☐
(5:43)	67.	If my teachers thought I couldn't do the work.	☐	☐	☐
(5:44)	68.	If I never got a chance to do what I'm good at	☐	☐	☐
(5:45)	69.	If a teacher didn't like me or pushed me around all the time	☐	☐	☐
(5:46)	70.	If I got into trouble with the school authorities.	☐	☐	☐
(5:47)	71.	If I got left back because I failed too many subjects.	☐	☐	☐

			If this happened:		
			I would probably quit (1)	I might quit (2)	I am sure I would stay (3)
(5:48)	72.	If I got blamed for things I didn't do -- because of my reputation.	☐	☐	☐
(5:49)	73.	If I thought my parents didn't care about my education. . .	☐	☐	☐
(5:50)	74.	If school didn't help me develop the skills I want to have.	☐	☐	☐
(5:51)	75.	If I got all low marks in school, even though I tried to do well	☐	☐	☐
(5:52)	76.	If there were a lot of reading to do and I couldn't understand it.	☐	☐	☐
(5:53)	77.	If school didn't help me learn things I want to know. . . .	☐	☐	☐
(5:54)	78.	If I felt there was a lot of prejudice in this school . . .	☐	☐	☐
(5:55)	79.	If my parents wanted me to leave school and get a job . . .	☐	☐	☐
(5:56)	80.	If the school had very tough rules and things were very strict.	☐	☐	☐
(5:57)	81.	If people avoided me and I felt out of it	☐	☐	☐
(5:58)	82.	If staying in school would *not* help me get a better job . .	☐	☐	☐

Here are some questions dealing with things schools often make rules about. We're interested in those things you might do that could get you in trouble at school. The only way we can learn about how boys your age act is by each boy giving honest answers to each question. Remember, no one at home or school will see your answers. This is *completely confidential.*

For each of the following questions, check the box next to the answer that tells how often you do this.
(CHECK ONE BOX ON EACH LINE)

			Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)
(5:59)	83.	How often do you fight or argue with other students. . . .	☐	☐	☐	☐	☐
(5:60)	84.	How often do you argue with your teachers.	☐	☐	☐	☐	☐
(5:61)	85.	How often do you do your best k in school	☐	☐	☐	☐	☐
(5:62)	86.	How often do you goof-off in class so others can't work. .	☐	☐	☐	☐	☐
(5:63)	87.	How often do you come late to school	☐	☐	☐	☐	☐
(5:64)	88.	How often are you late to class.	☐	☐	☐	☐	☐
(5:65)	89.	How often do you skip classes (when against the school rules)	☐	☐	☐	☐	☐
(5:66)	90.	How often do you come to class unprepared.	☐	☐	☐	☐	☐
(5:67)	91.	How often do you do things that you know will make the teacher angry.	☐	☐	☐	☐	☐
(5:68)	92.	How often do you cheat on tests.	☐	☐	☐	☐	☐
(5:69)	93.	How often do you turn in sloppy or incomplete assignments.	☐	☐	☐	☐	☐
(5:70)	94.	How often do you copy someone else's assignments	☐	☐	☐	☐	☐
(5:71)	95.	How often are you kept after school.	☐	☐	☐	☐	☐

PART C

In this questionnaire we are interested in your feelings about a number of things.

The first questions are about the way people behave and the way they treat each other. We would like to know what sort of things you think people *should* do, and what kinds of things they *should not* do.

Please read each statement below, then decide whether it is:

a very good thing for people to do
a good thing for people to do
a fairly good thing for people to do
a fairly bad thing for people to do
a bad thing for people to do
a very bad thing for people to do

(CHECK ONE BOX ON EACH LINE)

Is this a good thing for people to do?

			Very good (1)	Good (2)	Fairly good (3)	Fairly bad (4)	Bad (5)	Very bad (6)
(6:16)	1.	Being kind to people, even if they do things against one's own beliefs.	☐	☐	☐	☐	☐	☐
(6:17)	2.	Being able to get along with all kinds of people, whether or not they are worthwhile	☐	☐	☐	☐	☐	☐
(6:18)	3.	Studying constantly in order to become a well-educated person	☐	☐	☐	☐	☐	☐
(6:19)	4.	Being good in some form of sport	☐	☐	☐	☐	☐	☐
(6:20)	5.	Always telling the truth, even though it may hurt oneself or others	☐	☐	☐	☐	☐	☐
(6:21)	6.	(Optional) Being devout in one's religious faith. . .	☐	☐	☐	☐	☐	☐
(6:22)	7.	Always being patient with people	☐	☐	☐	☐	☐	☐
(6:23)	8.	Conforming to the requirements of any situation and doing what is expected of me	☐	☐	☐	☐	☐	☐
(6:24)	9.	Being careful of a borrowed book	☐	☐	☐	☐	☐	☐
(6:25)	10.	Doing a favor for someone who has done one for you . .	☐	☐	☐	☐	☐	☐

			Is this a good thing for people to do?					
			Very good (1)	Good (2)	Fairly good (3)	Fairly bad (4)	Bad (5)	Very bad (6)
(6:26)	11.	Being poised, gracious, and charming no matter where you are	☐	☐	☐	☐	☐	☐
(6:27)	12.	Developing physical strength and agility.	☐	☐	☐	☐	☐	☐
(6:28)	13.	Never telling a lie, even though to do so would make the situation more comfortable.	☐	☐	☐	☐	☐	☐
(6:29)	14.	Never losing one's temper, no matter what the reason. .	☐	☐	☐	☐	☐	☐
(6:30)	15.	Working and living in harmony with other people	☐	☐	☐	☐	☐	☐
(6:31)	16.	Helping a person who has helped you	☐	☐	☐	☐	☐	☐
(6:32)	17.	Turning the other cheek, and forgiving others when they harm you.	☐	☐	☐	☐	☐	☐
(6:33)	18.	Being the person in the group who is most popular with girls	☐	☐	☐	☐	☐	☐
(6:34)	19.	Working hard to achieve academic honors	☐	☐	☐	☐	☐	☐
(6:35)	20.	Taking good care of one's physical self, so that one is always healthy.	☐	☐	☐	☐	☐	☐
(6:36)	21.	Never cheating or having anything to do with cheating situations, even for a friend	☐	☐	☐	☐	☐	☐
(6:37)	22.	(Optional) Always attending religious services regularly and faithfully.	☐	☐	☐	☐	☐	☐
(6:38)	23.	Practicing self-control	☐	☐	☐	☐	☐	☐
(6:39)	24.	Being outspoken and frank in expressing one's likes and dislikes.	☐	☐	☐	☐	☐	☐
(6:40)	25.	Borrowing money and not expecting to pay it back. . . .	☐	☐	☐	☐	☐	☐
(6:41)	26.	Sticking up for someone who once stuck up for you . . .	☐	☐	☐	☐	☐	☐
(6:42)	27.	Being well-mannered and behaving properly in social situations.	☐	☐	☐	☐	☐	☐

Is this a good thing for people to do?

			Very good (1)	Good (2)	Fairly good (3)	Fairly bad (4)	Bad (5)	Very bad (6)
(6:43)	28.	Helping a close friend get by a tight situation, even though you may have to stretch the truth a bit to do it.	☐	☐	☐	☐	☐	☐
(6:44)	29.	Holding a reserve library book needed by another student	☐	☐	☐	☐	☐	☐
(6:45)	30.	Going out of your way to pay people back for being kind.	☐	☐	☐	☐	☐	☐
(6:46)	31.	Helping another person feel more secure, even if you don't like him.	☐	☐	☐	☐	☐	☐
(6:47)	32.	Dressing and acting in a way that is appropriate to the occasion.	☐	☐	☐	☐	☐	☐
(6:48)	33.	Developing an attractive body that others will admire .	☐	☐	☐	☐	☐	☐
(6:49)	34.	Telling a lie to spare someone's feelings	☐	☐	☐	☐	☐	☐
(6:50)	35.	(Optional) Always living one's religion in his daily life.	☐	☐	☐	☐	☐	☐
(6:51)	36.	People paying their debts no matter what.	☐	☐	☐	☐	☐	☐
(6:52)	37.	Striving to get the top grade-point average in the group	☐	☐	☐	☐	☐	☐
(6:53)	38.	Not copying during a test even though others in the class are copying	☐	☐	☐	☐	☐	☐
(6:54)	39.	Replying to anger with gentleness	☐	☐	☐	☐	☐	☐
(6:55)	40.	Thinking and acting freely, without social restraints, and encouraging others to do likewise	☐	☐	☐	☐	☐	☐
(6:56)	41.	Charging bills without knowing how to pay them.	☐	☐	☐	☐	☐	☐
(6:57)	42.	People returning favors you have done them.	☐	☐	☐	☐	☐	☐
(6:58)	43.	Helping another achieve his goals, even if it might interfere with your own	☐	☐	☐	☐	☐	☐

Is this a good thing for people to do?

		Very good (1)	Good (2)	Fairly good (3)	Fairly bad (4)	Bad (5)	Very bad (6)
(6:59)	44. Being able to get people to cooperate with you	☐	☐	☐	☐	☐	☐
(6:60)	45. Studying hard to get good grades in school	☐	☐	☐	☐	☐	☐
(6:61)	46. Being graceful and well-coordinated in physical movements	☐	☐	☐	☐	☐	☐
(6:62)	47. Getting hold of a copy of a coming final exam	☐	☐	☐	☐	☐	☐
(6:63)	48. (Optional) Encouraging others to attend services and lead religious lives	☐	☐	☐	☐	☐	☐
(6:64)	49. Not expressing anger, even when you have a reason for doing so	☐	☐	☐	☐	☐	☐
(6:65)	50. Being independent, original, non-conformist, different from other people	☐	☐	☐	☐	☐	☐
(6:66)	51. People helping you when you have helped them	☐	☐	☐	☐	☐	☐

The next questions are about the kind of job you would like to have. Different people want different things from a job. Some of the things that might be important are listed below. Please read each of the things on the list, then check the box that tells how important this thing would be to you.

Don't just check *Very Important* for everything. Try to think what things really matter to you, and what things really aren't that important.

(CHECK ONE BOX ON EACH LINE)

How important is this for you?

		Very important (1)	Pretty important (2)	A little important (3)	Not important (4)
(6:67)	52. A job where there's no one to boss me on the work	☐	☐	☐	☐
(6:68)	53. A job that is steady, no chance of being laid off	☐	☐	☐	☐
(6:69)	54. A job where I can learn new things, learn new skills.	☐	☐	☐	☐
(6:70)	55. A job where I don't have to work too hard	☐	☐	☐	☐
(6:71)	56. A clean job, where I don't get dirty.	☐	☐	☐	☐
(6:72)	57. A job with good chances for getting ahead	☐	☐	☐	☐
(6	58. A job where I don't have to take a lot of responsibility. . .	☐	☐	☐	☐
(6:74)	59. A job that leaves me a lot of free time to do what I want to do.	☐	☐	☐	☐
(6:75)	60. A job where the pay is good	☐	☐	☐	☐
(6:76)	61. A job that my friends think a lot of -- has class	☐	☐	☐	☐
(6:77)	62. A job that uses my skill and abilities -- lets me do the things I can do best.	☐	☐	☐	☐
(6:78)	63. A job that has nice friendly people to work with.	☐	☐	☐	☐
(6:79)	64. A job that doesn't make me learn a lot of new things.	☐	☐	☐	☐

Now we have some more questions about your opinions. Please select the one statement of each pair (*and only one*) which you more strongly *believe* to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the *one* you *more* strongly believe to be true.

This is a measure of personal belief; obviously there are no right or wrong answers. Just select the alternative which you *personally believe to be more true.*

(CHECK ONE BOX FOR EACH QUESTION)

I MORE STRONGLY BELIEVE THAT:

(7:16) 65. ☐ (1) Without the right breaks one cannot be an effective leader.
☐ (2) Capable people who fail to become leaders have not taken advantage of their opportunities.

(7:17) 66. ☐ (1) I have often found that what is going to happen will happen.
☐ (2) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

(7:18) 67. ☐ (1) In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
☐ (2) Many times exam questions tend to be so unrelated to course work that studying is really useless.

(7:19) 68. ☐ (1) Becoming a success is a matter of hard work; luck has little or nothing to do with it.
☐ (2) Getting a good job depends mainly on being in the right place at the right time.

(7:20) 69. ☐ (1) When I make plans, I am almost certain that I can make them work.
☐ (2) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

(7:21) 70. ☐ (1) In my case, getting what I want has little or nothing to do with luck.
☐ (2) Many times we might just as well decide what to do by flipping a coin.

(7:22) 71. ☐ (1) Who gets to be the boss often depends on who was lucky enough to be in the right place first.
☐ (2) Who gets to be boss depends on who has the skill and ability; luck has little or nothing to do with it.

(7:23) 72. ☐ (1) Without the right breaks, one cannot be an effective leader.
☐ (2) Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

I MORE STRONGLY BELIEVE THAT:

(7:24) 73. ☐ (1) Sometimes I can't understand how teachers arrive at the grades they give.
☐ (2) There is a direct connection between how hard I study and the grades I get.

(7:25) 74. ☐ (1) Many times I feel that I have little influence over the things that happen to me.
☐ (2) It is impossible for me to believe that chance or luck play an important role in my life.

(7:26) 75. ☐ (1) What happens to me is my own doing.
☐ (2) Sometimes I feel that I don't have enough control over the direction my life is taking.

(7:27) 76. ☐ (1) Knowing the right people is important in deciding whether a person will get ahead.
☐ (2) People will get ahead in life if they have the goods and do a good job; knowing the right people has little to do with it.

(7:28) 77. ☐ (1) Leadership positions tend to go to capable people who deserve being chosen.
☐ (2) It's hard to know why some people get leadership positions and others don't; ability doesn't seem to be the important factor.

(7:29) 78. ☐ (1) People who don't do well in life often work hard, but the breaks just don't come their way.
☐ (2) Some people just don't use the breaks that come their way. If they don't do well, it's their own fault.

(7:30) 79. ☐ (1) Most people can be trusted.
☐ (2) You have to be very careful before trusting people.

(7:31) 80. ☐ (1) Most people try to be helpful.
☐ (2) Most people are just looking out for themselves.

(7:32) 81. ☐ (1) Most people would take advantage of you if they had a chance.
☐ (2) Most people try to be fair, even when they wouldn't have to be.

The last section of this questionnaire is about government and public affairs.

(CHECK ONE BOX FOR EACH QUESTION)

(7:33) 82. Some people think about what's going on in government very often, and others are not that interested. How much of an interest do you take in government and current events?

☐ (1) A very great interest
☐ (2) A lot of interest
☐ (3) Some interest
☐ (4) Very little interest
☐ (5) No interest at all

(7:34) 83. Over the years, how much attention do you feel the government pays to what the people think when it decides what to do?

☐ (1) It pays very much attention to what people think
☐ (2) It pays a lot of attention to what people think
☐ (3) It pays some attention to what people think
☐ (4) It pays a little attention to what people think
☐ (5) It pays no attention to what people think

(7:35) 84. Do you think some of the people running the government are crooked or dishonest?

☐ (1) Most of them are crooked or dishonest
☐ (2) Quite a few are
☐ (3) Some are
☐ (4) Hardly any are
☐ (5) None at all are crooked or dishonest

(7:36) 85. Do you think the government wastes much of the money we pay in taxes?

☐ (1) Nearly all tax money is wasted
☐ (2) A lot of tax money is wasted
☐ (3) Some tax money is wasted
☐ (4) A little tax money is wasted
☐ (5) No tax money is wasted

(7:37) 86. How much of the time do you think you can trust the government in Washington to do what is right?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(7:38) 87. Do you feel that the people running the government are smart people who usually know what they are doing?

☐ (1) They almost always know what they are doing
☐ (2) They usually know what they are doing
☐ (3) They sometimes know what they are doing
☐ (4) They seldom know what they are doing
☐ (5) They never know what they are doing

(7:39) 88. Would you say the government is pretty much run for a few big interests looking out for themselves, or is it run for the benefit of all the people?

☐ (1) Nearly always run for a few big interests
☐ (2) Usually run for a few big interests
☐ (3) Run some for the big interests, some for the people
☐ (4) Usually run for the benefit of all the people
☐ (5) Nearly always run for the benefit of all the people

Can you name the following people in the government? If you know the answer, please write in the name; if you don't know, check the box. Don't worry if you don't know all the answers.

_____ (7:40) 89. Who is the President of the United States?

WRITE NAME HERE: ______________________________
Don't know ☐

_____ (7:41) 90. Who is the U.S. Secretary of State?

WRITE NAME HERE: ______________________________
Don't know ☐

_____ (7:42) 91. Who is the U.S. Secretary of Defense?

WRITE NAME HERE: ______________________________

Don't know ☐

_____ (7:43) 92. Who are the two U.S. Senators from your state?

_____ (7:44) WRITE NAMES HERE: ______________________________

____

Don't know ☐

PART D

The questions in this section are about your life outside of school, your family, your home, and your health.

The first questions are about your social life.

(CHECK ONE BOX FOR EACH QUESTION)

(8:16) 1. On the average, how many evenings a week during the school year do you usually go out for fun and recreation?

☐ (1) Less than one
☐ (2) One
☐ (3) Two
☐ (4) Three
☐ (5) Four or five
☐ (6) Six or seven

(8:17) 2. During the school year, on what days are you usually permitted to go out in the evening for fun (staying out until 10 P.M. or later)?

☐ (1) Never
☐ (2) Only for very special occasions
☐ (3) Saturdays only
☐ (4) Fridays and Saturdays only
☐ (5) Fridays, Saturdays, and Sundays only
☐ (6) Any day

(8:18) 3. How old were you when you first went out on a date?

☐ (1) I have never had a date
☐ (2) 12 or younger
☐ (3) 13
☐ (4) 14
☐ (5) 15
☐ (6) 16
☐ (7) 17 or older

(8:19) 4. On the average, how often do you go out on dates?

☐ (1) Never
☐ (2) Once a month or less
☐ (3) Two or three times a month
☐ (4) Once a week
☐ (5) Two or three times a week
☐ (6) More than three times a week

(8:20) 5. How many times have you gone "steady" in the past three years?

☐ (1) None
☐ (2) Once
☐ (3) Twice
☐ (4) Three times
☐ (5) Four times
☐ (6) Five or more times

The next questions are about you and your family. (If you are not living with your parents, plase answer for your guardian as indicated.)

(8:21) 6. How often does your whole family do things together that you all enjoy -- like going places together or working on things together?

☐ (1) Several times a week
☐ (2) About once a week
☐ (3) Once or twice a month
☐ (4) Less than once a month
  ☐ (5) Not living with whole family

(8:22) 7. When you were growing up, how did you feel about how much affection you got from your father (or male guardian)?

☐ (1) Wanted and got enough affection
☐ (2) Wanted slightly more than I received
☐ (3) Wanted more than I received
☐ (4) Did not want affection from him

(8:23) 8. When you were growing up, how did you feel about how much affection you got from your mother (or female guardian)?

- ☐ (1) Wanted and got enough affection
- ☐ (2) Wanted slightly more than I received
- ☐ (3) Wanted more than I received
- ☐ (4) Did not want affection from her

(8:24) 9. How much influence do you feel *you* have in family decisions that affect you?

- ☐ (1) A great deal of influence
- ☐ (2) Considerable influence
- ☐ (3) Moderate influence
- ☐ (4) Some influence
- ☐ (5) Little or no influence

Is your father (or male guardian) living?

( ) YES → CONTINUE WITH QUESTION 10
( ) NO → SKIP TO QUESTION 17

(8:25) 10. How often do you and your father (or male guardian) do things together that you both enjoy -- things like playing sports, or going to sporting events, or working on things together?

- ☐ (1) Several times a week
- ☐ (2) About once a week
- ☐ (3) Once or twice a month
- ☐ (4) Less than once a month

(8:26) 11. How close do you feel to your father (or male guardian?

- ☐ (1) Extremely close
- ☐ (2) Quite close
- ☐ (3) Fairly close
- ☐ (4) Not very close

(8:27) 12. How much do you want to be like your father (or male guardian) when you're an adult?

☐ (1) Very much like him
☐ (2) Somewhat like him
☐ (3) A little like him
☐ (4) Not very much like him
☐ (5) Not at all like him

(8:28) 13. All in all, how strict is your father (or male guardian) with you?

☐ (1) Extremely strict
☐ (2) Very strict
☐ (3) Moderately strict
☐ (4) Not very strict
☐ (5) Not strict at all

(8:29) 14. How often do you feel free to disagree with your father (or male guardian) when you think he is wrong?

☐ (1) Always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(8:30) 15. How much of the time do you obey your father (or male guardian)?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(8:31) 16. Compared with how you get along with your father (male guardian) now, would you say that three years ago you got along with him --

☐ (1) Much better
☐ (2) Somewhat better
☐ (3) About the same
☐ (4) Somewhat worse
☐ (5) Much worse

(8:32) 17. Who would you say manages the money matters in your family?

☐ (1) My father (or male guardian) only
☐ (2) Mostly my father (or male guardian)
☐ (3) My father and mother equally
☐ (4) Mostly my mother (or female guardian)
☐ (5) My mother (or female guardian) only

(8:33) 18. Which of your parents (or guardians) really has the final say about things that affect you -- discipline, staying out late, getting special privileges, etc.?

☐ (1) My father (or male guardian) only
☐ (2) Mostly my father (or male guardian)
☐ (3) My father and mother equally
☐ (4) Mostly my mother (or female guardian)
☐ (5) My mother (or female guardian) only

Is your mother (or female guardian) living?

( ) YES → CONTINUE WITH QUESTION 19

( ) NO → SKIP TO QUESTION 25

(8:34) 19. How close do you feel to your mother (or female guardian)?

☐ (1) Extremely close
☐ (2) Quite close
☐ (3) Fairly close
☐ (4) Not very close

(8:35) 20. How much do you want to be like the kind of person your mother (or female guardian) is?

☐ (1) Very much
☐ (2) Somewhat
☐ (3) A little
☐ (4) Not very much
☐ (5) Not at all

(8:36) 21. All in all, how strict is your mother (or female guardian) with you?

☐ (1) Extremely strict
☐ (2) Very strict
☐ (3) Moderately strict
☐ (4) Not very strict
☐ (5) Not strict at all

(8:37) 22. How often do you feel free to disagree with your mother (or female guardian) when you think she is wrong?

☐ (1) Always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(8:38) 23. How much of the time do you obey your mother (or female guardian)?

☐ (1) Almost always
☐ (2) Often
☐ (3) Sometimes
☐ (4) Seldom
☐ (5) Never

(8:39) 24. Compared with how you get along with your mother (or female guardian) now, would you say that three years ago you got along with her --

☐ (1) Much better
☐ (2) Somewhat better
☐ (3) About the same
☐ (4) Somewhat worse
☐ (5) Much worse

Next we would like to get some idea of how often your parents (or guardians) do each of the following things:

(CHECK ONE BOX ON EACH LINE)

			Always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)
(8:40)	25.	Decide how late you can stay out	☐	☐	☐	☐	☐
(8:41)	26.	Decide how much spending money you can have.	☐	☐	☐	☐	☐
(8:42)	27.	Decide what friends you can go around with	☐	☐	☐	☐	☐
(8:43)	28.	Decide what shows, movies, parties you can go to	☐	☐	☐	☐	☐
(8:44)	29.	Decide on what music lessons, camp, or after school activities you can have.	☐	☐	☐	☐	☐
(8:45)	30.	Praise or encourage you when you do something to please them	☐	☐	☐	☐	☐
(8:46)	31.	Completely ignore you after you've done something wrong.	☐	☐	☐	☐	☐
(8:47)	32.	Act as if they don't care about you any more	☐	☐	☐	☐	☐
(8:48)	33.	Disagree with each other when it comes to raising you. .	☐	☐	☐	☐	☐
(8:49)	34.	Actually slap you.	☐	☐	☐	☐	☐
(8:50)	35.	Take away your privileges (T.V., movies, dates).	☐	☐	☐	☐	☐
(8:51)	36.	Listen to your side of the argument.	☐	☐	☐	☐	☐
(8:52)	37.	Blame you or criticize you when you don't deserve it . .	☐	☐	☐	☐	☐
(8:53)	38.	Threaten to slap you	☐	☐	☐	☐	☐
(8:54)	39.	Talk over important decisions with you	☐	☐	☐	☐	☐
(8:55)	40.	Yell, shout or scream at you	☐	☐	☐	☐	☐
(8:56)	41.	Act fair and reasonable in what they ask of you.	☐	☐	☐	☐	☐
(8:57)	42.	Disagree about punishing you	☐	☐	☐	☐	☐
(8:58)	43.	Nag at you	☐	☐	☐	☐	☐

These next questions are about your health at the present time.

			Always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)
(8:59)	44.	Have you ever been bothered by nervousness, feeling fidgety and tense.	☐	☐	☐	☐	☐
(8:60)	45.	Are you ever troubled by headaches or pains in the head. .	☐	☐	☐	☐	☐
(8:61)	46.	Do you have loss of appetite	☐	☐	☐	☐	☐
(8:62)	47.	How often are you bothered by having an upset stomach. . .	☐	☐	☐	☐	☐
(8:63)	48.	Do you find it difficult to get up in the morning.	☐	☐	☐	☐	☐
(8:64)	49.	Has any ill health affected the amount of work you do. . .	☐	☐	☐	☐	☐
(8:65)	50.	Have you ever been bothered by shortness of breath when you were not exercising or working hard.	☐	☐	☐	☐	☐
(8:66)	51.	Have you ever been bothered by your heart beating hard . .	☐	☐	☐	☐	☐
(8:67)	52.	Have you ever had spells of dizziness.	☐	☐	☐	☐	☐
(8:68)	53.	Are you ever bothered by nightmares.	☐	☐	☐	☐	☐
(8:69)	54.	Do you tend to lose weight when you have something important bothering you.	☐	☐	☐	☐	☐
(8:70)	55.	Do your hands ever tremble enough to bother you.	☐	☐	☐	☐	☐
(8:71)	56.	Are you troubled by your hands sweating so that you feel damp and clammy.	☐	☐	☐	☐	☐
(8:72)	57.	Have there ever been times when you couldn't take care of things because you just couldn't get going	☐	☐	☐	☐	☐
(8:73)	58.	How often do you feel you are in good health	☐	☐	☐	☐	☐
(8:74)	59.	How often would you say you had a cold during the year . .	☐	☐	☐	☐	☐
(8:75)	60.	Do you ever have any trouble getting to sleep or staying asleep	☐	☐	☐	☐	☐

(8:76) 60a. About how many days a month are you absent or sent home from school because of illness?

☐ (1) Less than 1 day per month
☐ (2) 1 day per month
☐ (3) 2 days per month
☐ (4) 3 days per month
☐ (5) 4 or 5 days per month
☐ (6) More than 5 days per month

Some of the questions in the next section deal with things that are fairly personal. The information is important to the study; otherwise, we would not ask for it. And, of course, your answers to *all* questions will be kept strictly confidential. Nevertheless, if you see a question that you prefer not to answer, simply leave it blank.

_____(9:16-18) 61. What is your correct height? _______ feet, and _______ inches?
(fill in your height)

(9:19) 62. Do you feel you are ....

☐ (1) Much too tall
☐ (2) A little too tall
☐ (3) About the right height
☐ (4) A little too short
☐ (5) Much too short

_____(9:20-22) 63. What is your exact weight? ____________________ pounds
(fill in your weight)

(9:23) 64. Do you feel you are ....

☐ (1) Very overweight
☐ (2) Slightly overweight
☐ (3) About the right weight
☐ (4) Slightly underweight
☐ (5) Very underweight

(9:24) 65. (Optional) How would you describe your political preference?

☐ (1) Strongtly Republican
☐ (2) Mildly Republican
☐ (3) Mildly Democrat
☐ (4) Strongly Democrat
☐ (5) Other: (please write in), ______________________
☐ (6) Haven't thought about it; don't know

(9:25) 66. (Optional) How would you describe your father's (or male guardian's) political preference?

☐ (1) Strongly Republican
☐ (2) Mildly Republican
☐ (3) Mildly Democrat
☐ (4) Strongly Democrat
☐ (5) Other: (please write in) ____________________
☐ (6) Don't know
☐ (7) Father (or male guardian) not living

(9:26) 67. (Optional) How would you describe your mother's (or female guardian's) political preference?

☐ (1) Strongly Republican
☐ (2) Mildly Republican
☐ (3) Mildly Democrat
☐ (4) Strongly Democrat
☐ (5) Other: (please write in) ____________________
☐ (6) Don't know
☐ (7) Mother (or female guardian) not living

_____(9:27-28) 68. (Optional) What is your church preference?

☐ Roman Catholic
☐ Methodist
☐ Baptist
☐ Lutheran
☐ Presbyterian
☐ Episcopal
☐ Jewish
☐ Eastern Orthodox Churches
☐ Latter-Day Saints
☐ Churches of Christ
☐ Disciples of Christ
☐ United Church of Christ
☐ No preference
☐ Other (please write in

____

(9:29) 69. (Optional) How about the rest of your family? Do they have the *same* church preference?

☐ (1) YES - they have the same preference

☐ (2) NO - If NO, please describe these differences in the space below:

(9:30) 70. (Optional) How often do you go to church?

☐ (1) About once a week or more

☐ (2) Once or twice a month

☐ (3) A few times a year

☐ (4) Never

(9:31) 71. (Optional) How important is religion in your life?

☐ (1) Very important to me

☐ (2) Pretty important to me

☐ (3) A little important to me

☐ (4) Not important to me

(9:32) 72. About what do you think your father's income will be this year? (If your father is not living with the family, give the income of the head of the family.)

☐ (1) Under $2,000
☐ (2) $2,000 - 2,999
☐ (3) $3,000 - 3,999
☐ (4) $4,000 - 4,999
☐ (5) $5,000 - 6,999
☐ (6) $7,000 - 9,999
☐ (7) $10,000 - 14,999
☐ (8) $15,000 or over
☐ (9) Don't know

(9:33) 73. About what do you think the total income will be this year for *all* the members of your immediate family living at home?

☐ (1) Under $2,000
☐ (2) $2,000 - 2,999
☐ (3) $3,000 - 3,999
☐ (4) $4,000 - 4,999
☐ (5) $5,000 - 6,999
☐ (6) $7,000 - 9,999
☐ (7) $10,000 - 14,999
☐ (8) $15,000 or over
☐ (9) Don't know

(9:34) 74. How many different houses or apartments (not counting vacations away from your regular home) has your family lived in, in the last three years?

☐ (1) One
☐ (2) Two
☐ (3) Three
☐ (4) Four
☐ (5) Five
☐ (6) Six or more

(9:35) 75. Which one of the following best describes the building in which you live?

☐ (1) A one-family house
☐ (2) A two-family house
☐ (3) A small apartment house (3 or 4 families)
☐ (4) A large apartment house (5 families or more)
☐ (5) A rooming house, hotel, or trailer
☐ (6) Other: (please write in) ______________________

(9:36) 76. Which of the following best describes your family's finances?

☐ (1) Barely able to make a living
☐ (2) Have the necessities
☐ (3) Comfortable
☐ (4) Well-to-do
☐ (5) Wealthy
☐ (6) Extremely wealthy

(9:37) 77. How many books are in your home?

☐ (1) None, or very few (0-10)
☐ (2) A few books (11-25)
☐ (3) One bookcase full (26-100)
☐ (4) Two bookcases full (101-250)
☐ (5) Three or four bookcases full (251-500)
☐ (6) A room full -- a library (501 or more)

(9:38-39) 78. How many rooms are in your home? Count all rooms; bedrooms, bathrooms, kitchen, living room, dining room, recreation room, enclosed porch, etc.

______________ (please write in)

(9:40-41) 79. How many people live in your home? Include yourself, brothers, sisters, parents, relatives, boarders, roomers, housekeeper, etc.

_______________ (please write in)

(9:42-43) 80. What is your father's age (or the age of your male guardian)?

_______________ (please write in)

(9:44-45) 81. What is your mother's age (or the age of your female guardian)?

_______________ (please write in)

82. Please read the list of items below. Check the first box if they *are* in your home, check the second box if they are *not* in your home. (CHECK ONE BOX ON EACH LINE)

		(1) In my home	(2) Not in my home
(10:16)	a. A radio	☐	☐
(10:17)	b. A telephone	☐	☐
(10:18)	c. A television	☐	☐
(10:19)	d. A bicycle	☐	☐
(10:20)	e. A phonograph	☐	☐
(10:21)	f. (Optional) A Bible	☐	☐
(10:22)	g. A dictionary	☐	☐
(10:23)	h. A set of encyclopedias	☐	☐
(10:24)	i. 30 other books or more	☐	☐
(10:25)	j. A family car	☐	☐
(10:26)	k. A camera	☐	☐
(10:27)	l. A typewriter	☐	☐
(10:28)	m. A dog or cat	☐	☐
(10:29)	n. A fish in a tank	☐	☐
(10:30)	o. A newspaper delivered daily	☐	☐
(10:31)	p. A magazine subscription	☐	☐
(10:32)	q. A pair of binoculars	☐	☐
(10:33)	r. More than 10 phonograph records	☐	☐
(10:34)	s. A map or globe of the world	☐	☐

83. Please read down this next list and check the things which you have done at least one time in your life. Check the first box if you *have* done it, check the second box if you *have not* done it.
(CHECK ONE BOX ON EACH LINE)

			I *have* done this (1)	I have *not* done this (2)
(10:35)	a.	Dance	☐	☐
(10:36)	b.	Smoke	☐	☐
(10:37)	c.	Swim	☐	☐
(10:38)	d.	Ice skate	☐	☐
(10:39)	e.	Make a long-distance call	☐	☐
(10:40)	f.	Drive a car	☐	☐
(10:41)	g.	Take a taxi	☐	☐
(10:42)	h.	Buy a book	☐	☐
(10:43)	i.	Visit a zoo	☐	☐
(10:44)	j.	Cash a check	☐	☐
(10:45)	k.	Attend a summer camp	☐	☐
(10:46)	l.	Visit Europe	☐	☐
(10:47)	m.	Play ping pong	☐	☐
(10:48)	n.	Buy a magazine	☐	☐
(10:49)	o.	Visit a museum	☐	☐
(10:50)	p.	Ride in an airplane	☐	☐
(10:51)	q.	Go alone to a different city	☐	☐
(10:52)	r.	Attend a live opera	☐	☐

			(1) I *have* done this	(2) I have *not* done this
(10:53)	s.	Attend a live ballet	☐	☐
(10:54)	t.	See a live circus	☐	☐
(10:55)	u.	Visit a farm	☐	☐
(10:56)	v.	Ride on a Merry-Go-Round or a Ferris Wheel	☐	☐
(10:57)	w.	Stay overnight in a hotel or motel	☐	☐
(10:58)	x.	Have a part-time job	☐	☐
(10:59)	y.	Have a full-time job	☐	☐
(10:60)	z.	Own a wrist watch	☐	☐
(10:61)	aa.	Have a bank account	☐	☐
(10:62)	bb.	Make minor house repairs	☐	☐
(10:63)	cc.	Have a driver's license	☐	☐
(10:64)	dd.	Hear a live symphony	☐	☐
(10:65)	ee.	Act in a play	☐	☐
(10:66)	ff.	Send an entry blank to a contest	☐	☐
(10:67)	gg.	Put together a picture puzzle	☐	☐
(10:68)	hh.	Belong to a sports team	☐	☐
(10:69)	ii.	Send away for an offer made on the radio	☐	☐
(10:70)	jj.	Collect stamps or coins	☐	☐
(10:71)	kk.	Attend a professional football, baseball, basketball or hockey game	☐	☐

			(1) I *have* done this	(2) I have *not* done this
(10:72)	ll.	Buy a phonograph record	☐	☐
(10:73)	mm.	Ride in a rowboat or canoe.	☐	☐
(10:74)	nn.	Ride on a horse or pony	☐	☐
(10:75)	oo.	Baby-sit for a neighbor	☐	☐
(10:76)	pp.	Had a friend who attended college	☐	☐
(10:77)	qq.	Take out a library book	☐	☐
(10:78)	rr.	Belong to a Scouts, "Y", or other club.	☐	☐
(10:79)	ss.	Play a musical instrument	☐	☐
(10:80)	tt.	Write a letter to someone	☐	☐

Your code number: ________

PART E

CONFIDENTIAL INFORMATION QUESTIONNAIRE

The questions on the next two pages deal with a part of teenagers' lives we don't know very much about -- things they do which may be against the rules or against the law. The questions here are about things other boys have told us they've done which could get them in trouble.

Some of these things may be difficult for you to answer; they may be things you've told very few people. But, if we're going to understand boys all across the country, then each person must answer as honestly as he can.

Remember, no one outside the research staff will see your answers. This sheet will have only a number to identify it and your name won't be used with it.

WHEN YOU HAVE FINISHED THIS SECTION, FOLD THE QUESTIONS, PUT THEM IN THE SPECIAL ENVELOPE AND SEAL IT. REMEMBER, EVERYTHING YOU WRITE DOWN IS COMPLETELY CONFIDENTIAL -- NO ONE AT SCHOOL OR HOME WILL KNOW YOUR ANSWERS!

Here are a number of things which you might do that could get you into trouble. Please tell us how many times you have done these things in the last three years -- say since you started the seventh grade. For each question, put a check in the box next to the answer that is true for you.

In the last three years, how often have you done this?

			5 or more times (1)	3 or 4 times (2)	twice (3)	once (4)	never (5)
(11:16)	1.	Stayed out later than parents said you should.	☐	☐	☐	☐	☐
(11:17)	2.	Got into a serious fight with a student in school.	☐	☐	☐	☐	☐
(11:18)	3.	Run away from home	☐	☐	☐	☐	☐
(11:19)	4.	Taken something not belonging to you worth under $50 . . .	☐	☐	☐	☐	☐
(11:20)	5.	Went onto someone's land or into some house or building when you weren't supposed to be there.	☐	☐	☐	☐	☐
(11:21)	6.	Set fire to someone else's property on purpose	☐	☐	☐	☐	☐
(11:22)	7.	Been suspended or expelled from school	☐	☐	☐	☐	☐
(11:23)	8.	Get something by telling a person something bad would happen to him if you did not get what you wanted	☐	☐	☐	☐	☐
(11:24)	9.	Argued or had a fight with either of your parents.	☐	☐	☐	☐	☐
(11:25)	10.	Got into trouble with the police because of something you did.	☐	☐	☐	☐	☐
(11:26)	11.	Hurt someone badly enough to need bandages or a doctor. .	☐	☐	☐	☐	☐
(11:27)	12.	Damaged school property on purpose	☐	☐	☐	☐	☐
(11:28)	13.	Taken something from a store without paying for it	☐	☐	☐	☐	☐
(11:29)	14.	Hit a teacher.	☐	☐	☐	☐	☐
(11:30)	15.	Drunk beer or liquor without parents' permission	☐	☐	☐	☐	☐
(11:31)	16.	Smoked in school (against the rules)	☐	☐	☐	☐	☐

In the last three years, how often have you done this?

			5 or more times (1)	3 or 4 times (2)	twice (3)	once (4)	never (5)
(11:32)	17.	Hit your father.	☐	☐	☐	☐	☐
(11:33)	18.	Taken a car that didn't belong to someone in your family without permission of the owner.	☐	☐	☐	☐	☐
(11:34)	19.	Taken an expensive part of a car without permission of the owner.	☐	☐	☐	☐	☐
(11:35)	20.	Taken part in a fight where a bunch of your friends are against another bunch.	☐	☐	☐	☐	☐
(11:36)	21.	Hit your mother.	☐	☐	☐	☐	☐
(11:37)	22.	Taken something not belonging to you worth over $50.	☐	☐	☐	☐	☐
(11:38)	23.	Had to bring your parents to school because of something you did.	☐	☐	☐	☐	☐
(11:39)	24.	Taken an inexpensive part of a car without permission of the owner.	☐	☐	☐	☐	☐
(11:40)	25.	Skipped a day of school without a real excuse.	☐	☐	☐	☐	☐
(11:41)	26.	Used a knife or gun or some other thing (like a club) to get something from a person.	☐	☐	☐	☐	☐

Appendix D

THEMATIC APPERCEPTION TEST: SCORING CONVENTIONS FOR n ACHIEVEMENT

THEMATIC APPERCEPTION TEST: SCORING CONVENTIONS FOR n ACHIEVEMENT*

Criterion 1a: Competition with a standard of excellence; wanting statement

To fulfill this criterion the following questions must be answered "yes"

1. Is the task a skill one, i.e., can the personal influence the outcome?
2. Is there an explicit standard of excellence by which performance can be evaluated (either an absolute standard or one relative to other people)?
3. Is there concern over successfully competing with the standard (stated need)?

Criterion 1b: Competition with a standard of excellence; affective concern

Questions (1) and (2) above must be answered yes, as well as question (4) below.

4. Is there a statement of affect associated with a skill task involving a standard of excellence which indicates concern over successful competition?

Criterion 3: Long-term involvement**

Wanting to go to college = Task Imagery (TI)

Wanting to do well in college = Achievement Imagery (AI)

Wanting to graduate from college = Achievement Imagery (AI)

---

*Scoring conventions were used to clarify certain criteria presented in the Scoring Manual for Achievement Motivation (Atkinson, 1958, p. 179-204). These conventions are not intended to alter the total scores; they are meant only for clarification.

**Scoring conventions adapted for criterion 3 are imagery decisions for specific cases of need that deviate from the Manual.

Appendix E

THEMATIC APPERCEPTION TEST: SCORING CONVENTIONS FOR n AFFILIATION

THEMATIC APPERCEPTION TEST: SCORING CONVENTIONS FOR n AFFILIATION[*]

Criterion 3b: Friendly Nurturant Acts

To fulfill this criterion the following contingent questions must be answered:

1. Is the relationship culturally prescribed?[**]
2. If yes, is the friendly nurturant act culturally prescribed, i.e., is it not helping above and beyond the call of duty?[**]
3. If yes to (1) and (2) only criterion 1 may be used.
4. If yes to (1) but not to (2), then criterion 1 or 2 may be used.
5. If no to (1) and (2), then criterion 1, 2 or 3 may be used.

Prescribed Relationships	Prescribed Helping
Scientist - community, mankind, people	Serving mankind through science
Boss - worker	Task excellence and achievement
Father - son	Physical protection
Academic adviser or counselor - student	School goals unless otherwise stated
Teacher - student	School goals
Professional - professional	Business
Professional - non-professional	Solicited help
Lawyer - client	Human rights and privileges
Doctor - patient	Physical and mental well-being
Public servant - public	Service
Politician - public	Human rights and government

---

[*] Scoring conventions were used to clarify certain criteria presented in the Scoring Manual for the Affiliation Motive (Atkinson, 1958, p. 205-218). These conventions are not intended to alter the total scores; they are meant only for clarification.

[**] If reasonable doubt in answering (1) or (2), then be more stringent, i.e., lean to lower numbered criterion.

BIBLIOGRAPHY

Ammons, R. B. & Ammons, C. H. The Quick Test (QT): provisional manual. *Psychological Reports*, 1962, 11, 1-7, (Monograph Supplement 7-V11).

Argyris, C. *Personality and organization.* New York: Harper & Row, 1957.

Argyris, C. Understanding human behavior in organizations: one viewpoint. In M. Haire (Ed.), *Modern organization theory.* New York: Wiley, 1959, 115-154.

Atkinson, J. W. *An introduction to motivation.* Princeton: D. Van Nostrand, 1964.

Atkinson, J. W. (Ed.) *Motives in fantasy, action and society.* Princeton: D. Van Nostrand, 1958.

Bachman, J. G., Kahn, R. L., Mednick, M. T., Davidson, T. N., & Johnston, L. D. *Working paper 1: blueprint for a nationwide longitudinal study of adolescent boys.* (Interim report to the U.S. Office of Education, Project No. 5-0196), Ann Arbor: The University of Michigan, 1967.

Bachman, J. G., Smith, C. G., & Slesinger, J. A. Control, performance, and satisfaction: an analysis of structural and individual effects. *Journal of Personality and Social Psychology*, 1966, 4, 127-136.

Baehr, M. E. & Renck, R. The definition and measurement of employee morale. *Administrative Science Quarterly*, 1958, 3, 157-184.

Biddle, B. J. & Thomas, E. J. (Eds.) *Role theory: concept and research.* New York: Wiley, 1966.

Blum, F. H. Social audit of the enterprise. *Harvard Business Review*, 1958, 36 (2), 77-86.

Buss, A. H. *The psychology of aggression.* New York: Wiley, 1961.

Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), *Handbook of research on teaching.* Chicago: Rand McNally, 1963.

Cattell, R. B. Studies in individual differences. In J. J. Jenkins and D. G. Paterson (Eds.), *Fluid and crystallized intelligence.* New York: Appleton-Century-Crofts, 1961.

Cattell, R. B. & Beloff, H. *Handbook for the Jr.-Sr. High School Personality Questionnaire.* Champaign, Illinois: Institute for Personality and Ability Testing, 1962.

Cobb, S., Brooks, G. H., Kasl, S. V., & Connelly, W. E. The health of people changing jobs: a description of a longitudinal study. *American Journal of Public Health*, 1966, 56, 1476-1481.

Coleman, J. S. *Adolescent society*. New York: The Free Press of Glencoe, 1961.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. *Equality of educational opportunity*. Washington, D.C.: U.S. Government Printing Office, 1966.

Cronbach, L. J. *Essentials of psychological testing*. (2nd ed.) New York: Harper & Row, 1960.

Crowne, D. P. & Marlow, D. *The approval motive*. New York: Wiley, 1964.

Douvan, E. & Adelson, J. *The adolescent experience*. New York: Wiley, 1966.

Ferman, L. A. & Aiken, M. T. The adjustment of older workers to job displacement. Study in N. B. Shostak & W. Gomberg (Eds.), *Blue collar world—studies of the American worker*. Englewood Cliffs: Prentice-Hall, Inc., 1964.

Flanagan, J. C. & Cooley, W. W. *Project TALENT: report of the eleventh grade follow-up study*. (Technical report to the U.S. Office of Education, Cooperative Research Project No. 635), Pittsburgh: University of Pittsburgh Project TALENT Office, April 1965.

Flanagan, J. C. & Cooley, W. W. *Project TALENT: one-year follow-up studies*. (Technical report to the U.S. Office of Education, Cooperative Research Project No. 2333), Pittsburgh: University of Pittsburgh Project TALENT Office, 1966.

Flanagan, J. C., Dailey, J. T., Shaycoft, M. F., Gorham, W. A., Orr, D. B., & Goldberg, I. *Design for a study of American youth*. Boston: Houghton Mifflin, 1962.

Flanagan, J. C., Dailey, J. T., Shaycoft, M. F., Orr, D. B., & Goldberg, I. *Studies of the American high school*. (Final report to the U.S. Office of Education, Cooperative Research Project No. 226), Washington, D.C.: University of Pittsburgh Project TALENT Office, 1962.

Flanagan, J. C., Davis, F. B., Dailey, J. T., Shaycoft, M. F., Orr, D. B., Goldberg, I., & Neyman, C. A. *Project TALENT: The identification, development and utilization of human talents. The American high school student*. (Final report to the U.S. Office of Education, Project No. 635), Pittsburgh: University of Pittsburgh Project TALENT Office, 1964.

French, J. R. P., Jr. *Self-actualization and the utilization of talent.* (Final report to the U.S. Office of Education, Cooperative Research Project No. E-006), Ann Arbor: The University of Michigan, 1963.

French, J. R. P., Jr. & Kahn, R. L. A programmatic approach to studying the industrial environment and mental health. *Journal of Social Issues*, 1962, 18 (3), 1-47.

French, J. W., Ekstrom, R. B., & Price, L. A. *Manual for Kit of Reference Tests for Cognitive Factors.* (Project Designation NR 151-174), Princeton: Educational Testing Service, 1963.

Gates, A. I. *Gates Reading Survey—Form 1.* New York: Teachers College, Columbia University, 1958. (a)

Gates, A. I. *Manual for the Gates Reading Survey.* New York: Teachers College, Columbia University, 1958. (b)

Gold, M. Undetected delinquent behavior. *Journal of Research in Crime and Delinquency*, 1966, 3, 27-46.

Gray, W. S. (Edited by Helen M. Robinson.) *Gray Oral Reading Tests.* New York: Bobbs-Merrill Co., 1963.

Guide to the Use of the General Aptitude Test Battery, (Section III: Development). Washington, D.C.: U.S. Department of Labor, 1962.

Guilford, J. P. The structure of intellect. *Psychological Bulletin*, 1956, 53, 267-293.

Gurin, G. & Bradford, D. Motivational issues in reaction to job-training programs. *American Psychologist*, 1965, 20, 562.

Gurin, G., Veroff, J., & Feld, S. *How Americans view their mental health.* New York: Basic Books, 1960.

Hathaway, S. R. & Manachese, E. D. *Adolescent personality and behavior.* Minneapolis: University of Minnesota, 1963.

Hays, W. L. *Statistics for psychologists.* New York: Holt, 1963.

Hunt, S. M., Jr., Singer, K., & Cobb, S. Components of depression. *Archives of General Psychiatry*, 1967, 16, 411-447.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. *Organizational stress: studies in role conflict and ambiguity.* New York: Wiley, 1964.

Kaplan, A. *The conduct of inquiry.* San Francisco: Chandler Publishing Company, 1964.

Kasl, S. V. & French, J. R. P., Jr. The effects of occupational status on physical and mental health. *Journal of Social Issues*, July 1962, 18 (3), 67-89.

Katona, G. & Mueller, E. *Consumer responses to income increases.* Washington, D.C.: The Brookings Institution, 1967, in press.

Katz, D. & Kahn, R. L. *The social psychology of organization.* New York: John Wiley & Sons, Inc., 1966.

King, D. A. A multiplant factor analysis of employees' attitudes toward their company. *Journal of Applied Psychology*, 1960, 44, 241-243.

Kish, L. *Survey sampling.* New York: Wiley, 1965. (a)

Kish, L. Sampling organizations and groups of unequal sizes. *American Sociological Review*, August 1965, 30 (4). (b)

Klinger, M. R. B. *A comparison between American and foreign student groups on certain moral values.* (Doctoral dissertation, The University of Michigan) Ann Arbor: University Microfilms, 1961. No. 2690.

Kornhauser, A. Toward an assessment of the mental health of factory workers. Symposium presented at the meeting of the American Psychological Association, Chicago, 1960.

Lazarsfeld, P. Repeated interviews as a tool for studying changes in opinion and their causes. *American Statistical Association Bulletin*, 1941, 2, 3-7.

Long, J. M. Self-actualization in a sample of high school boys: a test of some propositions regarding self-identity. Unpublished doctoral dissertation, The University of Michigan, 1967.

Mandler, G. & Sarason, S. B. A study of anxiety and learning. *Journal of Abnormal and Social Psychology*, 1952, 47, 166-173.

Mathis, H. Environment, aptitude and race. Unpublished master's thesis, Wayne State University, 1966.

Mednick, M. T. The relationship of the Ammons Quick Test of Intelligence to other ability measures. *Psychological Reports*, 1967, 20, 523-526.

Peterson, D. R. Scope and generality of verbally defined personality factors. *Psychological Review*, 1965, 72, 48-59.

Porteus, S. *Porteus Maze Test: fifty years' application.* Palo Alto, California: Pacific Books, 1965.

Raven, J. C. *Guide to using progressive matrices (1947) sets A, Ab, B.* London: Lewis, 1951.

Roach, D. E. Dimensions of employee morale. *Personnel Psychology*, 1958, 11, 419-431.

Rosenberg, M. *Society and the adolescent self-image.* Princeton: Princeton University, 1965.

Rotter, J. B. Generalized expectancies for internal vs. external control of reinforcement. *Psychological Monographs: General and Applied*, 1966, 80, (Whole No. 1).

Rotter, J. B., Liverant, S., & Seeman, M. Internal versus external control of reinforcements: a major variable in behavior theory. In N. Washburne (Ed.), *Decisions, values, and groups, Volume II.* London: Pergamon Press, 1963.

Sampson, E. E. *An experiment on active and passive resistance to social power.* (Doctoral dissertation, The University of Michigan) Ann Arbor: University Microfilms, 1960. No. 3889.

Scott, W. A. *Values and organizations.* Chicago: Rand McNally and Company, 1965.

Sobol, M. Gross panel mortality and panel bias. *Journal of American Statistical Association*, 1959, 54, 52-68.

Srole, L. Social integration and certain corollaries. *American Sociological Review*, 1956, 21, 709-716.

Super, D. E. The Multifactor Tests: summing up. *Personnel and Guidance Journal*, 1957, 36, 17-20.

Tannenbaum, A. S. Control and effectiveness in a voluntary organization. *American Journal of Sociology*, 1961, 67 (1), 33-46.

Tannenbaum, A. S. & Bachman, J. G. Attitude uniformity and role in a voluntary organization. *Human Relations*, 1966, 19, 309-321.

Tannenbaum, A. S. & Georgopoulos, B. The distribution of control in formal organizations. *Sociological Forces*, 1957, 36, 44-50.

Tannenbaum, A. S. & Kahn, R. L. Organizational control structure: a general descriptive technique as applied to four local unions. *Human Relations*, 1957, 10, 127-140.

Turner, R. Working paper on the internalization of cultural values. Paper presented at the meeting of the Social Science Council Conference on Social Structure and Personality, December 1962.

Vernon, P. E. Ability factors and environmental differences. *American Psychologist*, 1965, 20, 723.

Vroom, V. H. *Work and motivation.* New York: John Wiley & Sons, Inc., 1964.

Wechsler, D. *Wechsler Adult Intelligence Scale, manual.* New York: Psychological Corporation, 1955.

Wherry, R. J. Industrial morale (a symposium). 4. Factor analysis of morale data: reliability and validity. *Personnel Psychology*, 1958, 11, 78-89.

Witkin, H. A., Lewis, J. B., Hertzman, M., Machover, K., Meissner, P., & Wapner, S. *Personality through perception.* New York: Harper & Row, 1954.

INDEX

Abilities as dimensions of fit between persons and environments, 110-111
Ability (*see also* Tests used at Time 1)
  academic, self-concept of, 46, 59
  measures of, 64-71
Ability and motivation as joint determinants of performance, 115
Ability grouping, 51
Ability requirements
  intelligence, 49, 62
  physical strengths and endurance, 49, 62
  reading, 49, 62
Ability spectrum, categories included in test battery, 64-66
Academic achievement, 46, 76
Accreditation of schools, 51
Achievement
  academic, 46, 76
  behaviors, 48, 59
  opportunities, 49, 62
  person-environment fit, 57, 62
  requirements, 49, 62
  self-concept of need for, 46, 62
Achievement motivation, 43-44, 46, 60, 74, 108
  person-environment fit, 57, 62
Adelson, J., 62, 254
Administration of interviews, tests, questionnaires
  at Time 1, 25, 58
  at Time 2, 27
  at Time 3, 27
Administrative policies and practices of schools, 52-53
Admission policies of schools, 52
Adolescence (*see specific topic of interest*)
Adult models, 55, 59
Adults, affiliation with, 43, 62
Advancement of personnel, policies of schools, 52
Affective states, 44-45, 73-74
  effects of person-environment fit on, 109
  environmental effects on, 104-105
Affiliation
  motivation for, 43
  opportunities for, 50
  person-environment fit, 57, 62
  projective measure of, 43, 60
  requirements for, 50
  self-concept of need for, 46
Aggression
  impulse to, 45, 74
  overt, 45, 74
Aiken, M. T., 254
Ammons, C. H., 59, 63, 253
Ammons, R. B., 59, 63, 253
Anagrams, 43, 65, 67-68
Analysis, additional types of, 97-100
  cross-lagged panel correlation, 14, 97-98
  discrepancy measures, 99-100
  teacher responses as criterion data, 100
  uniformity measures, 98-99
Analysis, major themes of, 103-121
Analysis strategies and procedures, 81-101
  applied to variable sets, 85-97
  sequence of, 81-84, 95-97
Analysis variables, set of, 84-86
Anomie, 45, 73
Anxiety and tension, 45, 73
Applied vs. pure science, 3
Aptitudes and abilities (*see* Tests used at Time 1)
Argyris, C., 104, 253
Arithmetic reasoning, 43, 68-69
Army General Classification Test, 70
Arscott, A. W., preface
Aspiration-setting, vocational, realism of, process of, 107-108
Atkinson, J. W., preface, 59, 60, 74, 108, 114, 253
Attitudes and values, 46-47, 75-77
Avoiding failure (*see* Failure, avoidance)

Bachman, J. G., foreword, 24, 69, 90, 99, 253, 257

Baehr, M. E., 104, 253
Battery of tests (*see* Test battery *and* Tests used at Time 1)
Behaviors, 48 (*see also specific behavior of interest*)
Beloff, H., 253
Biddle, B. J., 112, 253
Bingham, K. J., preface
Bisco, R., preface
Bixby, C., preface
Bloom, R., preface
Blum, F. H., 104, 253
Boys (*see* Subjects)
Bozoki, L., preface
Bradford, D., preface, 114, 255
Brooks, G., preface, 74, 254
Bumpass, J., preface
Bushnell, D., preface
Buss, A. H., 74, 253
Buss-Durkee Inventory, 74

California Personality Inventory, 75
California Test of Mental Maturity, 70
Campbell, D. T., 97, 253
Campbell, E. Q., 254
Campbell, N., 3
Cannell, C., preface
Cattell, R. B., 73, 253
Causation
  and longitudinal analyses, 83-84, 90
  hypotheses about, 13-16
  multiple and interacting, 106
Center for Research on Utilization of Scientific Knowledge, preface
Change
  and environmental context, 1-2
  during adolescence, 1-2
  in school environments, 31-32
Change scores as derived sets of analysis variables, 84
Changing Jobs Study, preface
Choices among environments, 1-2
Civil Rights Act of 1964, 6-7
Class size, 51
Cluster construction as a means of data reduction, 82, 86-88, 95-97
Clustering as a factor in sampling, 22-24
Cobb, S., preface, 73, 74, 254, 255
Coding Section of Survey Research Center, preface
Cognitive Factors, Kit of, 69
Coleman, J. S., 5, 6, 7, 42, 59, 106, 114, 254
Coleman Report, 5, 42, 106, 114
  relationship to present study, 6-7
College, interpersonal influence concerning, 55, 59, 62
Commensurate dimensions used to describe environments and persons, 11-13
Communication, patterns of in schools, 53
Community relationship with school, 118
Comparative analyses of schools as organizations, 120-121
Compensation by one environment for another, 106
Comprehensive and Vocational Educational Research, Division of, preface
Conceptual framework, 9-17
  appropriateness of, 16-17
  diagram of, 13
  specification of substantive content, 15
  substantive elaboration of, 103-121
Conflict or congruence among roles, 16, 112-113
Congruence or conflict among roles, 16, 112-113
Connelly, W. E., 254
Contact procedures
  for principals, 123
  for subjects, 25-28, 127
Control, perceived internal and external, 47, 76, 114-115
Control group, to assess effects of repeated interviewing, 38
Cooley, W. W., 6, 37, 254
Cooperation from participants in the study, 129 (*see also* Response rates)
Cope, R., preface
Counseling facilities in schools, 51
Counselors, data collection from, 31
Criteria, 103-115
  environment-environment interactions, effects on, 14-16, 111-113

Criteria
  environmental effects on, 103-106
  person-environment interactions, effects on, 13-16, 108-111
  person-person interactions, effects on, 16, 113-115
  person characteristics, effects on, 14, 107-108
Cronbach, L. J., 64, 65, 68, 254
Cross-lagged panel correlation, 14, 97-98
Cross-sectional analyses of data, 82-83, 88-91, 95-97
Crowne, D. P., 74, 254
Cultural values, 76
Culture-fair measures, use of in test battery, 64-66 (*see also* Tests used at Time 1)
Curriculum, school policies concerning, 53

Dailey, J. T., 254
Data collection
  from principals, teachers, and counselors, 31
  from subjects, 25-30, 41-42
  main stages of, shown schematically, 26
  Time 1, 25, 30
  Time 2, 27, 30
  Time 3, 27, 30
Data Processing Facility, of Institute for Social Research, preface
Data reduction, techniques for, 82, 86-88, 95-97
Dating and social behaviors, 48, 77
Davidson, T. N., 24, 253
Davis, F. B., 254
Decisions
  among environments, 1-2
  as important events during adolescence, 1-2
Delinquent behaviors, 48, 78
  effects of person-environment fit on, 109
  interpersonal influence concerning, 55, 59, 62
Demographic information concerning boys and their families, 63
Dependence, emotional, 74
Depression, 45, 73
Descriptive analyses of schools as organizations, 120
Descriptive statistics, 81-82
Design of the study, 4-5, 21-39
Development, of self (*see* Self-development)
Development, physical, 76
Deviant behavior in school, 75
Discrepancy measures used in analyses, 99-100
Discretionary sample of outstanding schools, 24
  contacting subjects for, 127
  securing schools for, 125-126
Dissatisfaction with self, 46, 62-63
Distortion of responses due to repeated interviewing, 37-38
Divergent thinking and Anagrams, 67
Douvan, E., 62, 254
Dropping out of school
  as a choice among environments, 10-11
  interpersonal influence concerning, 55, 59, 62
  plans for, 47, 63
  probability of, 75
  reasons for, 63
  study of causes, 18
Dropout sample, self-selection as a problem in design, 38-39

Education, levels of in teaching staffs, 53
Education, United States Office of, preface
Educational loading of tests, a spectrum of, 64-66
Ekstrom, R. B., 255
Embedded Figure Test, 69
Emotional dependence, 45, 74
Environment-environment interactions, 14-16, 111-113
Environmental effects
  importance of during adolescence, 1-2
  interaction and compensation, 106
  on criteria, 103-106
  on self-development, self-utilization, and affective states, 104-105
  on vocational development, 105-106

Environmental Participation Index, 78
Environments
  as a determinant of change, 9-17, 103-106
  as a factor in mental and physical health, preface
  descriptions of along commensurate dimensions, 11-13
  home, causal effects of, 103
  home, measures of, 56, 63, 77, 78
  involvement in, viewed as a matter of degree, 33-36
  school, causal effects of, 104-105
  school, measures of, 29-32, 42
  unemployment, causal effects of, 105
  unemployment, definition of, 33-36
  variations within categories of, 11
  work, causal effects of, 104-105
  work, measures of, 32
Epilogue: sampling procedures and response rates, 123-129
Epps, E., preface
Equality of Educational Opportunity, relationship to present study, 6-7 (*see also* Coleman Report)
Evaluation, school policies on
  of students, 52
  of teachers, 52, 117
Expectancy as a component of motivation, 113-115
Expectancy-value theories of motivation, 113-115
Expulsion policies of schools, 52
External control, perceived
  as a motivational factor, 114-115
  measure of, 76

Failure, avoidance
  need for, 44, 46, 62, 74
  person-environment fit, 57, 62
Faith in others, 47
Family relationships, 56, 77
Feld, S., 59, 60, 255
Ferman, L. A., 74, 254
Field independence-dependence, 69
Field Section, of Survey Research Center, preface
Figure-ground discrimination, 43, 69
Financial resources of schools, 51
Financial status of boys, 60-62
Financing of schools, 116-117
Fit between person and environments, 109-111
  description of in commensurate terms, 12
  dimensions of, 57, 62
Flanagan, J. C., 5, 6, 37, 42, 77, 93, 254
Flexibility, 47, 75
Framework, conceptual (*see* Conceptual framework)
French, J. R. P., Jr., preface, 74, 104, 255
French, J. W., 68, 69, 255
Friends
  age, 55, 59
  education, 55, 59
  motivation for affiliation with, 43, 62
  occupation, 55, 59
Future plans (*see* Plans, future)

Gage, N. L., 253
GATB (*see* General Aptitude Test Battery)
Gates, A. I., 255
Gates Reading Comprehension Test, 43, 65, 67, 255
General Aptitude Test Battery
  Guide to the use of, 255
  Part I, Arithmetic Reasoning, 43, 65, 68-69
  Part J, Verbal Ability, 43, 65, 68-69
  relationship to other standard measures of intelligence, 69-70
  validity for predicting high school success, 69-71
Georgopoulos, B., 75, 257
Gold, M., preface, 78, 255
Goldberg, I., 254
Gomberg, W., 254
Gorham, W. A., 254
Grades, interpersonal influence concerning, 55, 59, 62
Gray, D. S., 59, 255
Gray Oral Reading Test, 63, 255

Group administered measures at Time 1
  administration of, 25, 58
  Questionnaire, 71-78
  Tests, 64-71
Group Dynamics, Research Center for, preface
Guidance facilities in schools, 51
Guilford, J. P., 67, 68, 255
Guilt, 45, 73
Gurin, G., preface, 59, 60, 77, 114, 255
Gurin, P., preface

Haire, M., 253
Haney, W. V., preface
Happiness, 45, 60
Hathaway, S. R., 73, 255
Hays, W. L., 98, 255
Health, physical, 77
Height of subjects, 48, 77
Hertzman, M., 257
Hess, I., preface
Hidden Patterns Test, 43, 65, 69
High School Personality Quiz, 73
Hobson, C. J., 254
Home environment (*see* Environment, home)
Homework as a factor related to person-environment fit, 109
Honesty, 46, 76
Hudson, S., preface
Hunt, S. M., Jr., 73, 255

Ideal control over school/job, 47, 75
Identity (*see* Self-identity)
Iman, S. B., preface
Importance of grades to plans, 47, 62
Impulse to aggression, 74
Impulsivity measured by Porteus mazes, 68
Inactive status for subjects involved in the panel reduction at Time 2, 28
Independence (*see also* Field independence-dependence)
  affective state, 44, 74
  as a value, 46, 76
  motive gratification/frustration, 50
  need for, 43
  person-environment fit, 57
  self-concept of, 46
Index construction and data reduction, 82, 86-88, 95-97
Index scores as part of analysis variable sets, 87
Influence
  distribution of in school, 75
  interpersonal, 55, 59, 62
  patterns of in schools, 53
Influence sending
  delinquency, 55, 62
  dropping out, 55, 62
  further education, 55, 62
  grades, 55, 62
Innovation in school organizations, 52
Inputs required by schools, 116
Institute for Social Research, preface
Instructions to interviewers, 58
Intelligence
  environmental requirements for, 49, 62
  measures of, 43, 63-64, 66-69
  person-environment fit, 57, 62
  self-concept of, 46, 62
  use of, 44, 62
Intentions to drop out, 47, 63
Interaction
  among environmental factors, 14-16, 111-113
  among personality characteristics, 16, 113-115
  between person and environment, 2, 13-16, 108-111
Interactive causal relationships, 106
Interim contact with subjects, 27-28, 30
Internal control, perceived
  as a motivational factor, 114-115
  measure of, 76-77
Interpersonal influence (*see* Influence sending)
Interview
  Time 1, 25, 43-64
  Time 2, 27, 43-57
  Time 3, 27, 43-57
Interview repetition, effects on responses, 37-38
Interviewers, Survey Research Center, characteristics of, 58
Interviewer instructions, 58

Interviewer ratings of boys' characteristics, 64
Involvement in environments, viewed as a matter of degree, 33-36
Irritability, 45, 74
Item analysis
  of Job Information Test, 69
  of Matrices Test, 67

Jenkins, J. J., 253
Job Information Test, 43, 65, 69
Job placement program and vocational opportunities, 2, 51, 105
Jobs
  attitudes toward, 47, 76
  past, description of, 48, 60
  present, description of, 50, 60
Johnston, L. D., 24, 253

Kahn, R. L., 16, 24, 74, 75, 112, 115, 253, 255, 256, 257
Kaplan, A., 3, 254
Kasl, S. V., preface, 73, 74, 104, 254, 255
Katona, G., 36, 255
Katz, D., preface, 115, 256
Katz, I., 74
Kindness, 46, 76
King, D. A., 104, 256
Kish, L., preface, 21, 22, 23, 36, 256
Kit of Cognitive Factors, 69
  manual for, 255
Klinger, M. R. B., 76, 256
Kornhauser, A., 104, 256
Kuder-Richardson, 71

Lamendella, R. M., preface
Lazarsfeld, P., 37, 256
Lewin, K., 114
Lewis, J. B., 257
Liverant, S., 257
Long, J. A., preface, 74, 256
Longitudinal analyses, 83-84, 91-97
  and causation, 83-84, 90
  as an adaptation of the panel technique, 4-5
Longitudinal study, need for, 7
Losses in sample over time, 36-37
Loyalty of teaching staffs, 53

Machover, K., 257
Manachese, E. D., 255
Mandler, G., 74, 256
Mandler-Sarason Test Anxiety Questionnaire, 74, 256
Marlowe, D., 74, 254
Mathis, H., 78, 256
Matrices, 43, 65-67
Mazes, 43, 65, 68
McPartland, J., 254
Mean scores for schools as derived sets of analysis variables, 85
Measurement content, 41-79
  overview of, 41-42, 53-58
  Time 1 Interview, 59-64
  Time 1 Questionnaire, 71-78
  Time 1 Tests, 64-71
Mednick, M. T., 24, 63, 253, 256
Meissner, P., 257
Mental health, environmental effects on, 104-105
Michigan, The University of, preface
Military service
  as a factor in panel mortality, 36
  as a possible adolescent environment, 10
Minnesota Multiphasic Personality Inventory, 73, 74
Mood, A. M., 255
Mortality, panel, 36-37
Motivation, achievement, theory of, 108
Motivation and ability as joint determinants of performance, 115
Motive gratification/frustration
  achievement, 49
  affiliation, 50
  effort requirements, 49, 60
  independence, 50, 62
  personal relations with teachers, 50, 75
  salary, 49, 60
  self-development, 49
  self-utilization, 50
  status, 49, 59, 60
  time requirements, 49, 59, 60
Motives
  as determinants of behavior, 108
  as dimensions of fit between persons and environments, 111
Motives, measures of
  achievement, 43, 60
  affiliation, 43, 60
  avoiding failure, 44, 74

Motives, measures of
  independence, 43, 74
  "school motivation," 43, 75
  self-development, 44, 62, 74
  self-utilization, 44, 62, 74
  social approval, 43, 74
Moving as a cause of panel mortality, 36
Mueller, E., 36, 255
Multiple and interacting causation, 106
Multistage sampling procedure, 21-22

Navarro, H., preface
Newsletters to participants, 27-28, 30
Neyman, C. A., 254
Niaki, R., preface
Norstebo, G., preface

Occupational aspiration and achievement as a major focus of interest, 9
Occupational attainment, 50, 60
Occupations, test of information about, 69-71
Office of Education, United States, preface
Open system theory, as applied to school organizations, 115
Opportunities as environmental factors influencing adolescent development, 1-2
Organizational Behavior Program of the Survey Research Center, 75
Organizational characteristics of schools as a topic for study, 17-18, 115-121
Organizational variables, 49-54
  comparative analyses of, 120-121
  descriptive analyses of, 120
  explanatory analyses of, 121
Orr, D. B., 255
Otis Self-Administering Test of Mental Ability, 70
Outputs of schools, 119
Outstanding schools, discretionary sample of, 24
Oversimplifications corrected, 33-36
Overt aggression, 74

Paige, K. E., preface, 69
Panel
  mortality (losses), 36-37
  reduction in size at Time 2, 28, 30
  subjects, selection of, 21-24, 29
Paragraph Comprehension, oral test of, 63
Parental characteristics, 56, 63, 77
Parent-teacher organizations, 118
Parsimony as a characteristic of the conceptual framework, 17
Participation, rate of
  by boys, 128-129
  by schools, 123-126
  implications of, 128-129
Past experiences of boys, extensiveness of, 48, 78
Paterson, D. G., 253
Peer group structure, 54, 59
Peers (*see also* Friends)
  motivation for affiliation with, 43, 62
  relationships with, 59
People Changing Jobs Study, preface
Performance as a joint function of ability and motivation, 115
Person characteristics as both predictors and criteria: a major conceptual problem, 14, 107-108
Personal relations with teachers, 50, 75
Personality
  dimensions of, 43-48, 74-75 (*see also specific dimension of interest*)
  factors of, as determinants of change, 9-17, 107-108
  formation of, during adolescence, 1-2, 9-17
Personality inventories
  California Personality Inventory, 75
  High School Personality Quiz, 73
  Minnesota Multiphasic Personality Inventory, 73
Person-environment
  fit, 57, 62, 109-111
  interactions affecting criteria, 2, 13-16, 108-111
Person-person interactions, 16, 113-115

Personnel, school, 116
  policies concerning, 52
Peterson, D. R., 73, 256
Phenomenological relationships, analysis procedures to avoid, 90
Physical abilities, use of, 44, 62
Physical characteristics
  appearance, 48, 64, 77
  height and weight, 48, 77
  maturity, 48, 64
  race, 48, 64
  symptoms of ill health, 45, 77
Physical condition
  person-environment fit, 57, 62
  requirements, 49, 62
  self-concept, 46, 62
Physical development, as a value, 46, 76
Pilot study
  special panel for, 29, 30
  use of data in development of Job Information Test, 69
Placement, in school programs, 52
Placement, vocational, 2, 51, 105
Plans
  future, 47, 62
  importance of grades to, 47
  intentions to drop out, 47, 63
Policies, administrative, of schools, 52-53
Policy and theory, implications of the study for, 3-4
Political Behavior Program of the Survey Research Center, 77
Political characteristics of respondents
  alienation and attitudes, 47, 77
  knowledge of government officials, 77
  party preference, 77
Population and samples, 21-24
Porteus' maze scores related to delinquent behavior, 68
Porteus, S., 68, 256
Power, patterns of in schools, 53
Price, L. A., 255
Principals of participating schools, preface
  contact to request school's participation, 123
  data collection from, 31
Probability sample, 21-24
  contacting subjects for, 126-127
  securing schools for, 123-125
Probability of dropping out of school, 48, 75
Procedures of analysis (*see* Analysis strategies and procedures)
Project TALENT, relationship to present study, 5-6
Projective measures of motives, 43, 60
Pure vs. applied science, 3
Purposes of the study, 9-18
  additional, 17-18
  major, 9-17
"Push outs" from school, study of causes, 18

Questionnaires
  Time 1, 25, 43-58, 71-78
  Time 2, 27, 43-57
  Time 3, 27, 43-57
Quick Test of Intelligence, 43, 63-64
Quinn, R. P., 255

Racial characteristics
  of respondents, 48, 64
  of student bodies, 54
  of teaching staffs, 53
Racial differences in educational opportunity, 6-7
Rappaport, P., preface
Rates of response (*see* Response rates)
Raven, J. C., 66, 67, 256
Raven Progressive Matrices, 66-67
Raynor, J., preface
Reading ability
  environmental requirements for, 49, 62
  measures of, 43, 63, 67
  person-environment fit, 57, 62
  self-concept of, 46, 62
  use of, 44, 62
Realism in vocational aspiration, 107-108
Rebellious behaviors in school, 48, 75
  effects of person-environment fit on, 109
Reciprocity as a value, 46, 76
Recruitment of teachers, school policies concerning, 52

Reduction in panel size at Time 2, 28, 30
Reduction of data through index construction, 82, 86-88, 95-97
Refusal to participate as a cause of panel mortality, 36-37
Reliability
  of General Aptitude Test Battery, 69
  of Raven Progressive Matrices, 67
  of Thematic Apperception Test, 61
Religious preference of subjects, 77
Religiousness as a value, 46, 76
Renck, R., 104, 253
Repeated interviewing effects, 37-38
Repetition of measures, 41
Research Center for Group Dynamics, preface
Research design, 21-39
  additional issues in, 32-39
  overview of, 4-5
Resentment, 45, 73
Residence change as a cause of panel mortality, 36
Resources in home environment, 56, 78
Resources, school organizational characteristics related to, 116-117
Respondents, procedures for selection of, 21-24, 29, 126-129
Response rates
  implications of, 128-129
  of boys, 128-129
  of schools, 123-126
Retail Credit Company, 37
Roach, D. E., 104, 256
Robinson, H. M., 255
Role conflict and/or congruence, 16, 112-113
Role sending as a determinant of criterion behaviors, 113
Role systems of schools, 117-118
Rosenberg, M., 73, 256
Rosenthal, R. A., 255
Rotter, J. B., 76, 114, 256, 257

Sadness, 45, 73
Salary, as a characteristic of the work environment, 49, 60
Salary structures of schools, 52
Sample losses over time, 36-37
Sampling design, 21-24
  procedures for implementing, 123-129
  rationale for, 24
Sampling Section, of Survey Research Center, preface
Sampson, E. E., 74, 257
Sarason, S. B., 74, 256
Satisfaction levels of subjects
  with life, 45, 74
  with school and self, 62
Satisfaction levels of teaching staffs, 53
Scates, A., preface
Schedule of data collections, 26
Scheffler, J., preface
School
  attitudes toward, 43, 75
  deviant behavior in, 75
  motivation toward, 43, 75
  segregation in, 6-7
  self-concept of ability in, 46, 59
School environment (*see* Environment, school)
School mean scores as derived sets of analysis variables, 85
School organizational characteristics
  analyses of, 120-121
  as a topic of study, 17-18, 115
  enumeration of, 49-54, 115-120
Scott, J., preface
Scott, W. A., 76, 257
Seeman, M., 257
Segregation in schools, 6-7
Self-concept
  as a major focus of interest, 9
  dimensions of, enumerated, 46
Self-control as a value, 46, 76
Self-development
  aspired level of, 46, 62
  environmental effects on, 104-105
  motivation for, 44, 62, 74
  opportunities for, 49, 62
  person-environment fit, 57, 62
  requirements for, 49, 62
Self-esteem, 44, 73, 108
Self-identity
  dimensions of, 62-63
  factors related to, 107-108
Self-selection of the dropout sample as a problem in design, 38-39

Self-utilization
  environmental effects on, 104-105
  motivation for, 44, 62, 74
  opportunities for, 50, 62
  perceived level of, 46, 62
  person-environment fit, 57, 62
  requirements for, 50, 62
Sets of analysis variables, 84-86
Shaycoft, M. F., 254
Shostak, N. B., 254
Sibling characteristics, 56, 63
Singer, K., 73, 255
Size of classes, 51
Size of school, 51, 104-105, 120
Skills, social, as a value, 46, 76
Slesinger, J. A., 90, 253
Smith, C. G., 90, 253
Smith, C. P., 59, 60
Snoek, J. D., 255
Sobol, M., 36, 37, 38, 257
Social and dating behaviors, 48, 77
Social approval, need for, 43, 74
Social environment (*see* Environments)
Social Research, Institute for, preface
Social responsibility, 46, 76
Social skills, as a value, 46, 76
Social support, 45, 74
Socioeconomic status, 78
Spectrum of educational loading of tests, 64-66
Srole, L., 73, 257
Stability of self-esteem, 44, 73
Staff characteristics in schools, 53
Stanford-Binet, 67
Stanley, J. C., 97, 253
Status, as a job characteristic, 49, 60-62
Strata used in sampling, 21-23
Strategies of analysis (*see* Analysis strategies and procedures)
Structural characteristics of schools (*see* School organizational characteristics)
Student characteristics, 54, 116
Students (*see also* Subjects)
  school policies on evaluation of, 52
  selection of, by schools, 54
Subjects (*see also* Student characteristics, *and* Students)
  procedures for selection of, 21-24, 29, 126-129
Substantive issues in analyses, 103-121
Super, D. E., 68, 257
Survey Research Center, Political Behavior Program of the, 77
Survey Research Center, preface
Survey Research Center interviewers, characteristics of, 58

TALENT, Project, 37, 42, 77, 93
  relationship to present study, 5-6
Tannenbaum, A. S., 75, 99, 257
Teacher associations, 118
Teachers
  and decision-making, 117-118
  as sources of criterion data, 18, 100, 121
  characteristics of, 53, 116-117
  data collection from, 31
  evaluation of, 52, 117
  performance of, 117
  student attitudes toward, 43, 75
  turnover of, 117
Tension and anxiety, 45, 73
Test anxiety (*see* Failure, avoidance)
Test battery, 64-71 (*see also* Tests used at Time 1)
  procedures for administering, 25, 58
Tests used at Time 1
  Anagrams (vocabulary level), 43, 67
  Gates Reading Comprehension, 43, 67
  General Aptitude Test Battery, Part I: Arithmetic reasoning, 43, 68
  General Aptitude Test Battery, Part J: Verbal ability, 43, 68-69
  Gray Oral Reading Test, 63
  Hidden Patterns (figure-ground discrimination), 43, 69
  Job Information Test, 43, 69
  Matrices (culture-fair intelligence), 43, 66
  Mazes (culture-fair intelligence), 43, 66
  Quick Test (general intelligence), 43, 63

Thematic Apperception Test (TAT), 43, 60
Themes of analysis, 103-121
Theoretical framework for the study, 9-17
Theory and policy, implications of the study for, 3-4
Thomas, D., preface
Thomas, E. J., 112, 253
Time involvement in environments, 33-36
Time requirements of school and job environments, 49
Tolman, E. C., 114
Transition, adolescence as a time of, 1-2
Turner, R., 114, 257
Turnover of school staff, 53

Unemployment environment (*see* Environment, unemployment)
Uniformity measures used in analyses, 98-99
United States Employment Service, Matrix Test, 66-67
United States Office of Education, preface
University of Michigan, The, preface
Utilization of Scientific Knowledge, Center for, preface
Utilization of self (*see* Self-utilization)

Validity
  of General Aptitude Test Battery, 69-71
  of Raven Progressive Matrices, 67
Value as a component of motivation, 113-115
Values and attitudes, measures of, 46-47, 75-77
Variable sets for analyses, definition of, 84-86
Vernon, P. E., 67, 257
Veroff, J., 255
Vocabulary level, measure of (*see* Tests used at Time 1)
Vocational aspiration-setting, 107-108
Vocational development, environmental effects on, 105-106
Vocational placement program, 2, 51, 105
Vroom, V. H., 114, 115, 257

Wapner, S., 257
Washburne, N., 257
Wechsler Adult Intelligence Scale, 68, 257
Wechsler-Bellevue, 67, 68, 70, 257
Weight, of subjects, 48, 77
Weinfeld, F. D., 254
Wherry, R. J., 104, 257
Wirtanen, I. D., preface
Witkin, H. A., 69, 257
Wolfe, D. M., 255
Work environment (*see* Environment work)

York, R. L., 254
Youth as a time of transition, 1-2